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MONTANA OUTDOORS

A CENTURY OF CONSERVATION
1901 2001
Montana Fish, Wildlife & Parks

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Our Point of View

It's summertime and most everyone is looking forward to enjoying the beautiful Montana outdoors. Whether it be camping at a high mountain lake or spin-casting on Fort Peck Lake, in Montana there is truly an outdoor activity for everyone.

Before we set out on that great adventure, we all need to be cognizant of the environment we are entering.

The Montana summer of 2000, with its drought and extreme fire conditions, will not be soon forgotten. Around one million acres of forest and rangelands were blackened by raging wildfires. The air was thick with smoke for weeks on end. Water flows were well below normal and water temperatures above normal in many streams, rivers, and lakes. Restrictions and closures on all types of recreational use were imposed to protect natural resources, homes, and property.

The 2001 climatic conditions currently present the potential for a second straight year of drought and extreme wildfire. State, local, and federal agencies have been coordinating efforts to educate us all about the ramifications of these dire events to help us avoid and minimize impacts to our prized natural resources.

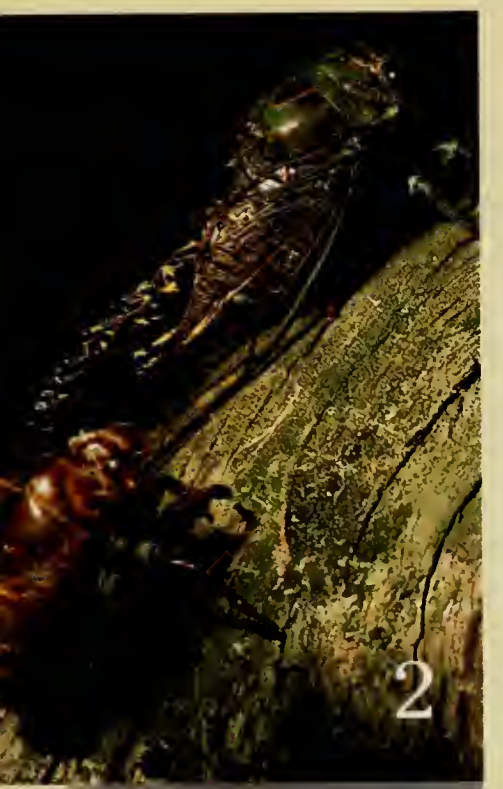
Montana Fish, Wildlife & Parks may be faced with the need to restrict or close fishing in some areas to protect stressed fisheries. FWP is in the process of developing thresholds that are critical to fish survival. Those thresholds will likely vary with fish species and specific habitats. FWP will do its best to keep the recreating public informed of conditions as the year proceeds. Please feel free to contact any of the FWP offices across the state or our Web site (fwp.state.mt.us) for the latest information. FWP will also be happy to assist you in locating an alternative fishing location where fish survival conditions are not as critical as in a closed area.

FWP understands that many folks may have planned for some time for that special fishing trip. We ask you to understand that in order to preserve Montana's highly sought-after fisheries, restrictions and/or closures are necessary during these severe drought conditions. With your cooperation, and the good graces of Mother Nature, we can look forward to better conditions in the future with lots of big, hungry fish.

Have a great summer and thank you for your cooperation in protecting what makes Montana great!

M. Jeff Hagener

M. Jeff Hagener
Director, Montana, Fish, Wildlife & Parks



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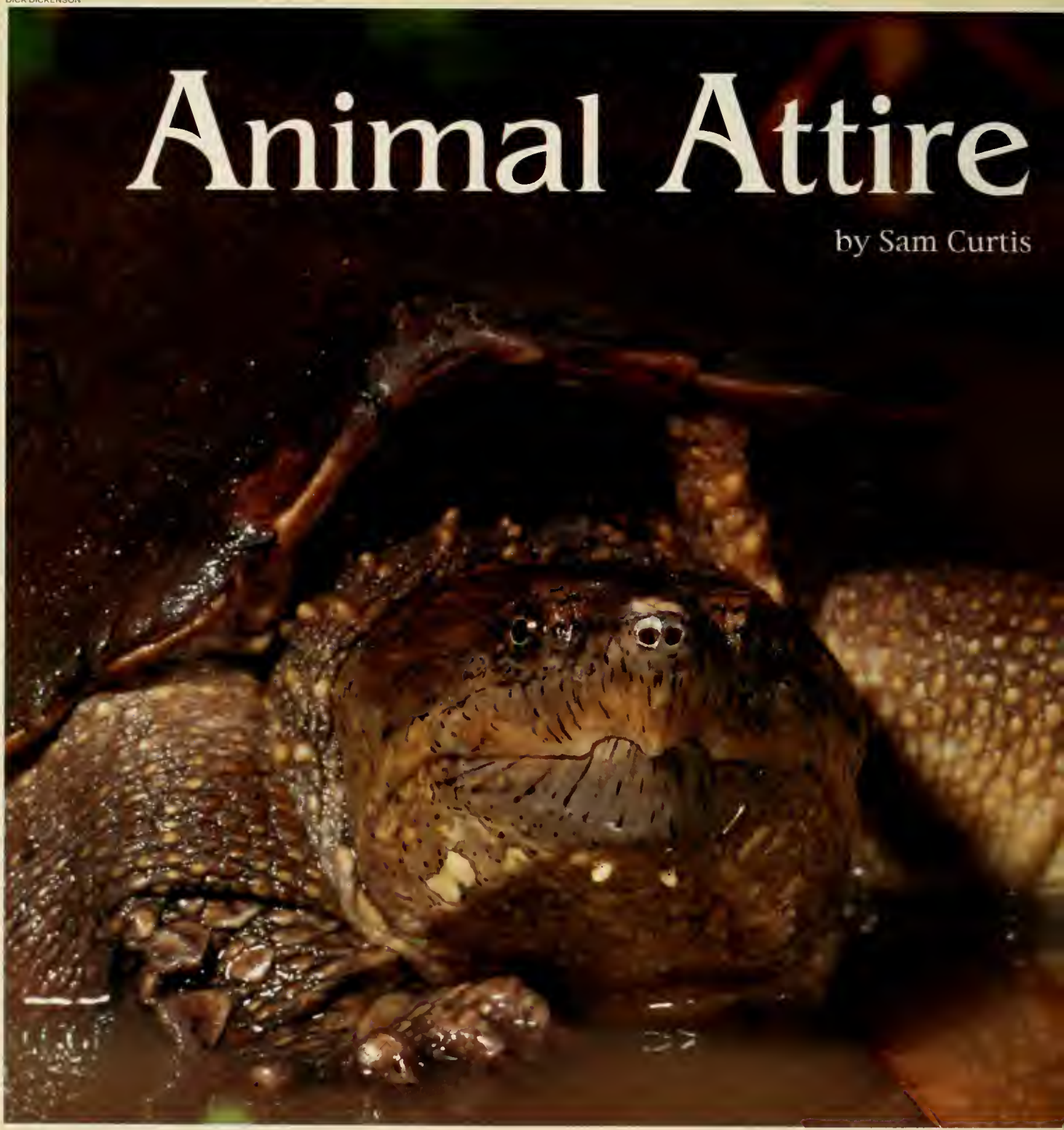
DICK DICKENSON

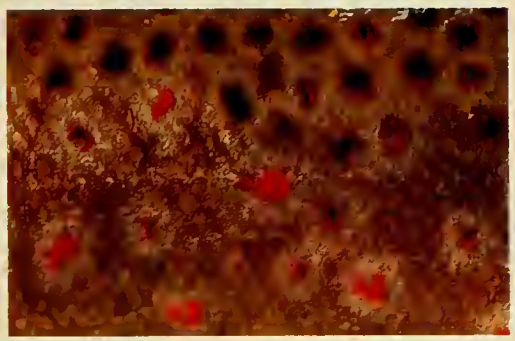
Animal Attire

by Sam Curtis



"The huge snapping turtle I saw once—and touched lightly on its Gothic shell—made me marvel most of all about the clothes animals wear."

I spent my childhood in swamps. In an old wood and canvas canoe, I paddled and poled through reeds, grass, and lily pads at the ends of ponds. Pike cruised and savaged in the shallows, their shadows giving life to my imagination as I drifted and fished on hot days. I'd float and poke at freshwater mussels and hard-shelled beetles. Whitetails came to the water's edge to drink, their coats burnished red for summer. Snakes glistened in the sun. And herons taught me the meaning of patience, standing forever in their fine plumage, wire legs stuck in water, while they waited for the flash of minnows below the mirrored surface.



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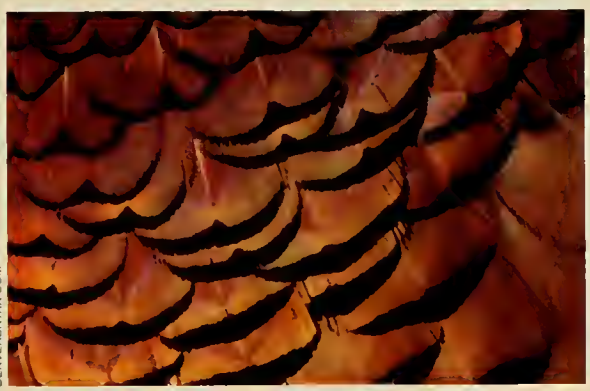
But the huge snapping turtle I saw once—and touched lightly on its Gothic shell—made me marvel most of all about the clothes animals wear: their intricate shells, their fur, their feathers, their scales, their skin. Certainly, this varied attire helps define who they are. But all this haute couture is also functional. It has purpose, many purposes.



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Consider our own skin, the wrapping we are born in, our "birthday suit." It's soft, but it's also tough and durable. (I've been wearing mine for 60 years!) It cushions our insides from bangs and blows. Skin is our first line of defense against germs and bacteria. It's waterproof and breathable. It regulates body temperature. It receives sensory impressions. It sends chemical signals. It stores food and eliminates waste. It's amazing. In fact, the skin is probably the most versatile organ we—and most other animals—have.

RON BOGDS

From the hard shell of a snapping turtle (left) to the scales and feathers worn by brown trout and ring-necked pheasants (above), animal attire is infinitely varied and useful. Mountain goats (right) have coats that insulate them from extremes of heat and cold.

In addition to skin, animals are often prone to add embellishments such as shells, scales, feathers, and fur as frosting on the cake. Amphibians are an exception. But their skin has some features human skin lacks. And perhaps that's fortunate for both humans and, for example, frogs and toads.

Frogs and toads are moist-skinned vertebrates with mucous glands all over their bodies to keep their skin from drying out by slowing evaporation. Their skin is permeable, and instead of drinking water they simply absorb it through their skin.

In addition to mucous, some frogs, but particularly toads, secrete poisons from their skin. And this can be quite disconcerting to their enemies. Toad researcher Robert DeGraff says a toad is a "moveable drugstore, a veritable chemical factory containing hallucinogens, powerful anesthetics and chemicals that affect the heart and nervous system." If a predator pops a noxious toad into its mouth, the poisons secreted by the toad's skin are absorbed by membranes in the predator's mouth, bringing its respiratory system to a screeching halt and jump starting its heart into a lethal tachycardia.

In some parts of the world, healers and medicine men use "powdered toad, toad ashes, toad pellets, toad grease, and tincture of toad when treating toothache, dropsy, rheumatic pains, bubonic plague, epilepsy, tumors and cancer."

The hallucinogenic effects of toad secretions have given rise to "toad smokers" and "toad lickers" in some countries, a practice that has not become popular in Montana. Perhaps we are fortunate to lack toads with secretions that, when licked, send you on "a rocket trip into the void," as one experimenter described his experience.

Maybe it's just as well most creatures cover up their skin with other things.

Fur, or hair, for example, is unique to mammals, and it grows from tiny papillae in the outer layer of their skin. Hair is primarily an insulating feature that helps mammals keep heat in during winter and out during summer. Humans in cold climates, feeling shortchanged in the hair department, have made clothes of hairy mammals, including wolves, foxes, and wolverines, in order to survive extremely cold temperatures.

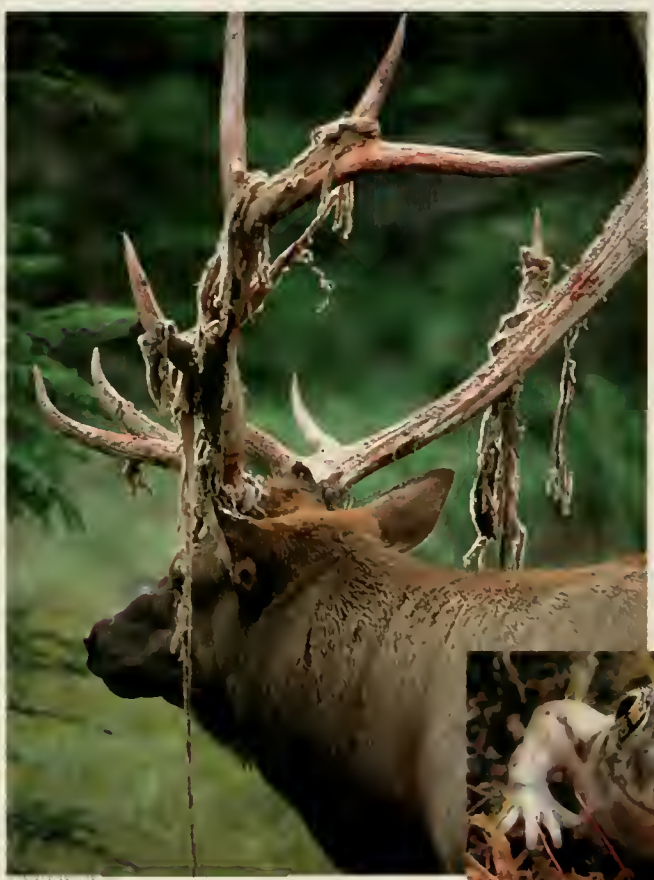
Whether worn by animals or humans, hair insulates by creating dead air spaces next to the body so convection currents can't whisk away heat generated by the body. A dense undercoat of short, fine hair does this job well. Longer, coarser guard hair pokes through and above the undercoat and provides most of the color to a mammal's coat. The color of any animal's attire is usually designed to camouflage or advertise its presence (see "Colors of Survival," March/April 1999).

A flashy display of hairy parts of the body can also act as a warning sign to other members of the species. Strip tease aside, we all know the intense white flag of a spooked whitetail's tail. And a pronghorn can also flare the white hairs on its rump patch to flash a warning to other pronghorns up to two miles away.

Some mammal hair is very specialized. The quills on a porcupine—about 30,000 of them at last count—are modified hairs that are only loosely attached to the skin. Quills are barbed, as those of us with stupid dogs know all too well. Porcupines can't shoot their quills into their attackers, but they can dislodge them very easily into any curious critter's nose or mouth.

In the non-hair department, the furry "velvet" we see on elk and moose antlers during spring and summer is not hair but a modified extension of the animals' skin that covers the growing antlers and is then shed when the antlers are mature. Antlers and horns are unique accessories of animal attire (see "Antlers and Horns," September/October 1998).

As we do with our own wardrobes,



DONALD M. JONES

RODNEY SCHLECHT

The antler "velvet" sported in spring and summer by bull elk (left) is a modified extension of the animals' skin. Like other amphibians, the plains spadefoot (below) does not drink through its mouth, but instead absorbs water through its skin.

JAN L. WASSINK

Antelope flare their white rump hairs to warn other pronghorns of impending danger.

furry mammals usually change what they wear between summer and winter. Triggered by photoperiodism—the shifting ratio of daylight to darkness throughout the year—elk molt in the spring, shedding their winter coats in big patches in preparation for warmer weather. In the fall, their light summer pelage is replaced by a new, thick, cold-weather coat.

Weasels not only change the weight of their coats to fit the seasons, they also change the color—brown in summer, white in winter, the classic colors of camouflage.

While mammals sport hair, reptiles and fish are covered with scales. Scales act like suits of armor. They're made of *keratin*, a material which, curiously, is also found in fingernails, hair, and feathers.

Snakes not only depend on their scales for protection, they use them for locomotion. Carl Ernst and George Zug, in their book *Snakes in Question*, write: "In most snakes the ventral (underside of the body) scales are enlarged and arranged in a single longitudinal series, like a tread on a bulldozer. The single row of ventral scales is critical to locomotion; they provide the contact edge for pushing the side and top of the body forward.

"Movement is generated by contraction waves passing sequentially down the body from neck to base of tail. A segment of the belly is alternately stretched and lifted forward. As the segment is contracted, its scales anchor on the surface and pull the body forward."

A unique adaptation of scales on the rattlesnake is responsible for that hair-raising buzz we sometimes hear when stepping through the rocks and bunchgrass of the Montana plains. The rattles on the tip of the rattler's tail are actually loose-fitting, interlocked scales whose sides strike against each other—making a warning buzz or rattle—when the snake vibrates its tail.

The turtle, also a reptile, has adapted its scales into one of the most bizarre, cumbersome, and effective suits of armor in the natural world. A turtle shell—or, more properly, its carapace on the top and its plastron on the bottom—is constructed of an outer layer of horny scales and an inner layer of thick plates. The turtle's backbone and ribs are fused to the inside of these plates on the carapace. Most turtles can pull all, or almost all, of their body inside their shell, giving them close to bomb-proof protection. Perhaps that's why turtle shell construction has changed little over the last 175 million years. Survival is more important than comfort when it comes to turtle clothes.

While most reptiles molt, and some turtles shed the scales on the surface of their shells, other turtles' scales just pile up on their backs over the years. But snakes, like kids, outgrow their clothes as they get bigger. Also like kids, snakes are hard on clothes, wearing them thin with all that crawling around on the ground. The answer to growth and wear is a suit of new

clothes. And while humans shed individual skin cells one by one on a continuing basis, snakes get rid of their old clothes all at once.

First, the cells on the inner side of their epidermis die and liquefy, causing their skin to soften. The scales that cover the eyes—aptly called the spectacles—become dull and blur the snake's vision, making it grouchy. If it's a rattler, it may strike first and see what it has bitten later. The snake starts rubbing its mouth on rough surfaces to peel the loosening old skin back on itself. And when it finally works the skin over its head, the snake continues to wriggle out of it, bit by bit, down to the tip of its tail, leaving the old skin on the ground, inside out, like a pair of kid's dirty jeans. The snake's new skin, bright and shiny, has already grown in place beneath the old.

As suggested by the rattles on a rattlesnake, scales have evolved to serve different purposes. Consider the feather. Feathers are unique to birds. But birds are believed to have evolved from reptiles, branching off from their lineage about 150 million years ago.

"It takes no great stretch of the imagination," says Roger Tory Peterson in *The Birds*, "to envisage a feather as a modified scale, basically like that of a reptile—a longish scale loosely attached, whose outer edges frayed and spread out until it evolved into the highly complex structure that it is today. In fact, birds still wear scales very much like those of reptiles on their feet and legs."

Birds' flight feathers are miracles of evolution that allow them to fly. They are strong, and their intricate structure of barbs, barbules, and barbicels interlace to form the wind-resistant wings on which birds soar, glide, and dive.

Downy feathers on the bulk of a bird's body, on the other hand, provide insulation so effective that envious man has incorporated them into his own cold-weather gear—sleeping bags, parkas, mittens, booties.

JAN L. WASSINK

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The scales of a garter snake (top photo) and flight feathers of a mallard (above) differ in appearance and function, but suggest a common ancestry. Snakes shed their skin to reveal a new one already grown in place, while ducks are flightless during the summer molt.

And how many feathers does it take to dress a bird? It depends, of course. One researcher painstakingly counted 25,216 on a whistling swan. About 20,000 came from its head and neck. Another researcher from the Smithsonian Institution counted 940 feathers on a ruby-throated hummingbird.

Most birds are fairly particular about their feathers, using their beaks to clean and smooth them and to put ruffled feathers back in place. Like snakes, birds molt. But most birds that depend on flying for escape or for getting food lose their flight feathers a few at a time from each wing, so they can always fly. Ducks and geese, on the other hand, lose most of their feathers all at once but remain relatively safe and well fed for the brief time they are confined to the water.

Perhaps the most extroverted creatures, when it comes to animal attire, are the insects. They wear their skeletons as outerwear. An insect's exoskeleton is made of skin secretions that eventually harden. This external

A cicada emerges from its old husk with a pliable new "suit" that will eventually harden.

DICK DICKENSON

skeleton is composed of a tough, lightweight material called *chitin*, which is coated with wax to keep outside moisture from getting in and inside moisture from getting out.

An insect's cylindrical shell is, structurally, extremely strong and provides superior protection, but it tends to isolate its occupant from the outside world. The shell itself has no sensory organs. To compensate for this, insects have hair-like structures that are attached to the skin and poke through the exoskeleton to receive sensations, mainly in the form of air currents that alert the insect to the approach of other creatures.

One of the more complex issues of insect life is the whole question of growth. How does an insect grow bigger inside its solid suit of armor? Again, as we've seen in the case of creatures that wear skin, scales, hair, and feathers, the process of molting—the animal version of changing clothes—is an important part of an insect's lifestyle.

Peter Farb, in *The Insects*, has this to say about it: "The process of molting is not so simple as buying a larger suit of clothes for a growing child. Essentially, the insect skeleton is composed of a hard outer layer and a more flexible inner layer, both of which overlie the thin covering of living cells that might be called 'skin.' In molting, special glands in this skin discharge a secretion that dissolves the skeleton's inner layer, but not the outer. At the same time, an entirely new, pliable skeleton—accordion-pleated by the pressure of growth—is forming, still protected by the old outer layer. Finally, the insect splits this old shell down the head and thorax, and emerges in a new suit—wrinkled, soft and pliable at first—that expands and then hardens into armor."

I remember the awe with which, as a kid, I'd examine cast-off cicada skeletons still clinging to spruce trees in my front yard. The pointed claw-like tips of their front legs were jabbed into the bark. The empty skeletons were split down the back, leaving gaping holes where the adults had fought their way out. Inside the shed husks, I could still see the remains of the white breathing tubes that poked through the surface of the shell so the cicadas could get air inside that all-encompassing armor.

The thought of living inside that kind of confinement makes me feel rather claustrophobic, happy to be wearing my own skin. But that's my own taste in birthday suits. I guess there really is some rhyme and reason to what we see being worn these days, at least when it comes to animal attire. ■

RODNEY SCHLECHT

The Thirty-One-Year Ram

by Doug Engelhardt

The sound of bighorn rams cracking heads was unmistakable. My friend Chris Capozzoli and I listened intently, trying to get a better fix on their location. The fog was so thick we sometimes couldn't see more than 20 feet. It had begun to rain, and we were crawling over slick, wet shale. As we peered over the top of a small ridge, we could dimly make out the forms of seven rams and about 30 ewes and lambs. The biggest ram had heavy, broomed-off horns; with him were another fair-sized ram and several smaller ones. I was trying to track the big ram through the scope of my .270, but he kept getting mixed up with the ewes.

MICHAEL H. FRANCIS

It was November 13, 1999. But my story actually begins on a hot August afternoon in 1953, in the Poudre River Canyon northwest of Fort Collins, Colorado. My dad, Lloyd Engelhardt, and great uncle, Alfred Engelhardt, and I were fishing on the river when a small bunch of bighorn sheep appeared across the canyon from us. I was only eight years old, but I can still remember how they nimbly worked their way down a steep slope to the river. The band contained about a dozen ewes, one small ram, and one ram that was close to full-curl. Uncle Fred said several sheep had been transplanted into this area shortly after the end of World War II and the herd had increased to about 25 animals. The original herd had died out during a pneumonia outbreak in the 1930s.

In the years that followed, I saw bighorn sheep many more times in Colorado and southern Wyoming, and my fascination with them continued. As I got older I began to read articles and books about sheep hunting in Wyoming, Montana, Canada, the desert Southwest, and beyond. Charles Sheldon's book *The Wilderness of the Upper Yukon* took me to the Selwyn and Werneke Mountains in search of Dall and Stone sheep. In *East of the Sun and West of the Moon*, I tagged along with Theodore and Kermit Roosevelt to the Russian Pamirs in search of *Ovis poli*, the Marco Polo sheep. Magazine articles like "A Day in Ram Heaven" by Jack O'Connor, and especially "The Three Musketeers" by Bert Riggal, only whetted my desire to hunt these magnificent animals.

In 1968 I moved to Montana, and in 1969 I entered the Montana bighorn sheep license drawing for the first time. I didn't draw a permit that year, nor did I draw one for the next 29—but I kept trying. In spring of 1999 I was on the roof of our house in Ulm replacing some shingles when my wife Dixie came home from the post office and announced that I had an important piece of mail from Montana Fish, Wildlife & Parks. That was putting it mildly! It was a sheep permit for the north side of the Sun River Canyon in an area called Castle Reef.

This area is steep and rocky with limited access. There is an old road up the bottom of Hannan Gulch and a rough road that goes a little way in on the east side of Castle Reef. The rough terrain and abundant rockslides make it hard to negotiate with horses, so it is mostly foot travel. That suited me just fine.

In August my friend Hubert Gillil-and accompanied me on a scouting trip into Hannan Gulch. We saw one ruffed grouse, some grizzly tracks around a mud-hole, and no sheep. Some beginning!

Over Labor Day I took my old camp trailer up to the area and left it by the cabin of a friend of mine. He said I could leave it there as long as I needed to. It turned out to be quite awhile.

On September 17 and 18, Hugh and I went back into Hannan Gulch. We sat down in a small bunch of fir trees and looked the country over very carefully. After about three hours of glassing, we hadn't spotted a sheep or anything else for that matter.

It was bake-oven hot and a fierce wind was blowing up the canyon. We headed up to the saddle between Hannan Gulch and the south fork of Deep Creek. There is a good-sized stand of alpine fir and whitebark pine trees on the Deep Creek side, and I thought there might be some sheep in the shade and out of the wind. Good idea, but no sheep. The wind was so bad that it was dangerous to get close to a cliff edge unless you belly-crawled. We decided the sheep knew something we didn't, and headed back down.

The next day we found about 100 sheep on the south end of Castle Reef in an area known as Wagner Basin. They were all ewes and lambs; we watched for awhile and left to try again later.

I went back in a week and found what appeared to be the same groups of sheep in almost the same places, but now there were a few rams mixed in. They were a lot lower than I had expected to find them. Water was drying up in the high country; although sheep can go several days without a drink, I suspected the abundance of water was drawing them down.

On October 2, I found more sheep; no big rams, but they were beginning to work over into the broken country east of Wagner Basin. Not exactly an easy place to go, but a lot easier than the top of Castle Reef!

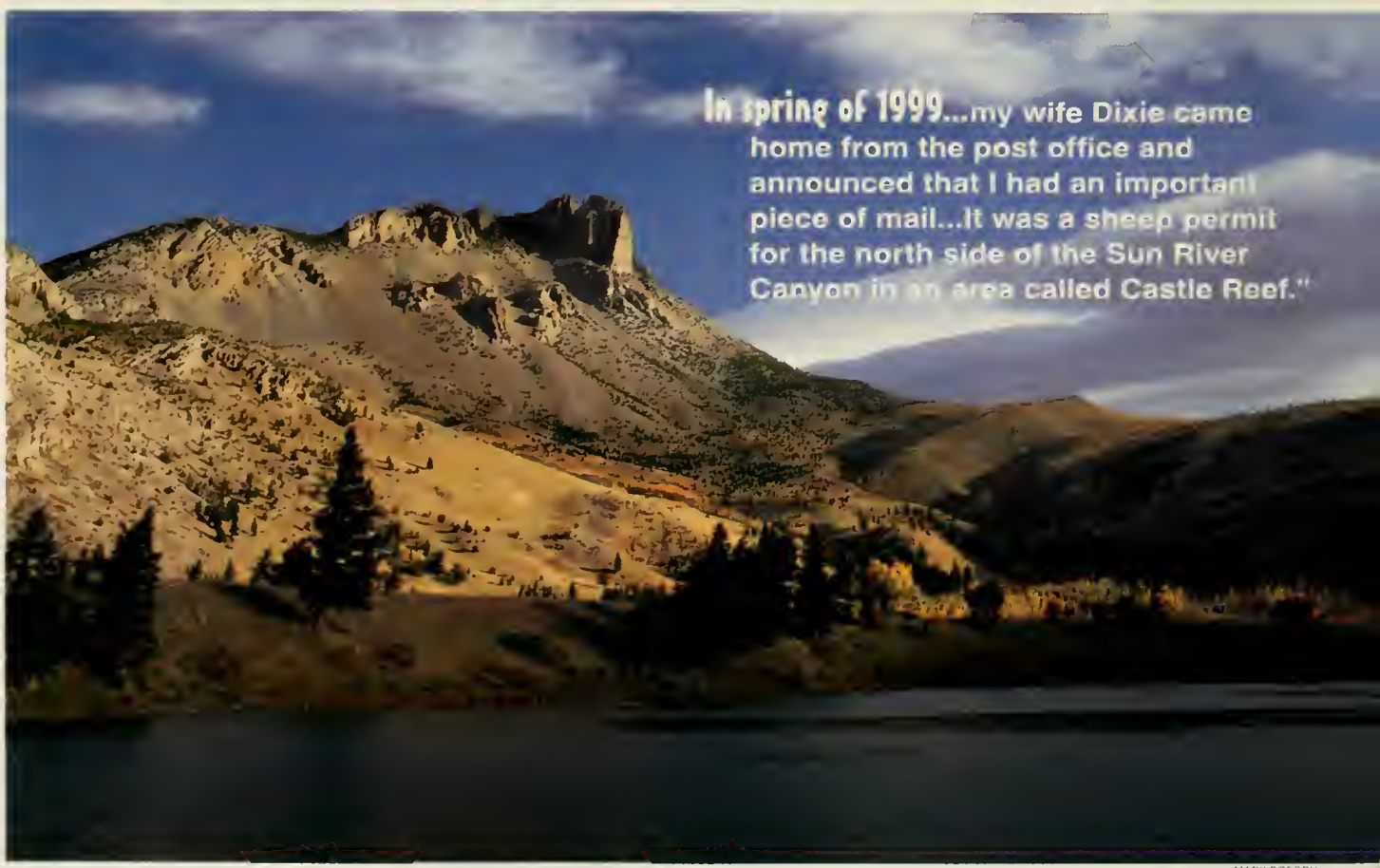
On October 8, Bret Kohles, another good friend, and I looked over the lower slopes of Hannan Gulch. We found several bunches of sheep, but no rams. We looked down into the heads of Green Timber and No Business creeks on the east side of Castle Reef and saw about 40 ewes and lambs.

That night it rained, and the next day we looked in Wagner Basin again; we found the same bunches of sheep and decided to come back a week later.

On October 22, I hunted Wagner Basin alone. I found some rams this time, up in the shale slides below the Castle in country that is difficult at best for a man to get around in. As I watched, two of the rams got up and very carefully walked over the top into the canyon to the east. I thought that over there I might have a chance at them.

This is steep, rough country, and progress can be slow, especially on the shale slides, and above the many cliffs. I found a large mule deer buck lying in some brush at the bottom end of a timbered point, but that was all. The two rams had vanished.

On October 29 I was back in the


In spring of 1999...my wife Dixie came home from the post office and announced that I had an important piece of mail...It was a sheep permit for the north side of the Sun River Canyon in an area called Castle Reef."

MARK BOESCH

RODNEY SCHLECHT

same area, but on the opposite side of the canyon following an old wagon track that goes into Wagner Basin from the east. I was about two-thirds of the way up, and had stopped to glass. Far off across the canyon I saw a lone ram in a saddle just below the ridgeline. He was walking down from the ridge toward a group of about 20 ewes and another ram. The two rams looked at each other for a few minutes, then followed the ewes up into the saddle and over the top.

One of the rams had more than a full curl, with horns that flared out with perfect points. The other was an older ram. His horns had a tighter curl, but were broomed back, and he was much heavier. I think he would have scored more than the Boone and Crockett minimum.

I headed after them, but by the time I got to the top of the ridge they were just crossing onto private property below. I sat down out of the wind and watched, but they stayed off limits. I remained until dark and saw more sheep, but nothing as good as those two.

November 6 and 7 were much the same. Sheep weren't hard to find, but rams had suddenly become scarce again. I did see one of the largest white-tail bucks I have ever come across, but that was about it.

The afternoon of November 12, another friend, Chris Capozzoli, came with me. He had been hunting elk east of Great Falls but found it tough going in the unseasonably hot weather, so he elected to come along sheep hunting. He was to bring a change of fortune.

After we got to the camper, the man who owns the property said he had seen two rams across the river earlier that afternoon, and one of them was pretty good. Chris and I went over there, but they got into the private land and all we could do was watch. The wind was howling and the thermometer said 63 degrees when we turned in about ten o'clock.

We woke to dead silence and fog so thick we couldn't see 20 feet. After breakfast we decided we could drink coffee just as well on the ridge across the river as in the camper, so we went over to where we had found the sheep the afternoon before.

We got to where we wanted to be, and sat drinking coffee and listening. We hadn't been there five minutes when we heard rams cracking heads! Now to figure out where they were, as visibility was almost zero. We finally determined they were southwest of us, so we took off.

When we had walked about a half-mile we almost tripped over a band of perhaps 30 sheep, but the fog was so bad that all we could see was an occasional form ghosting through the mist. They didn't know we were there, so we sat tight, watching and listening. That's when we heard the rams butting heads that I described at the beginning of the story.

As I explained, we had crawled to within about 50 feet of the sheep. The rams and the ewes were milling around in the fog; the rams would take time out to butt heads, then get back to the ewes. I was trying to follow the biggest ram through my scope, but the fog made it

"I will always be able to think back to a time when I had enough iron in my legs to climb from the bottom of Hannan Gulch to the top of Castle Reef and back in one day."

RODNEY SCHLECHT

difficult. A ram with a heavy horn on the left side came into clear view for an instant, and I squeezed the trigger of my lightweight .270. The 130-grain bullet hit him through the lungs, and he was down and dead almost instantly. It turned out to be the second-largest ram, but a good one nonetheless.

We got him field-dressed and began dragging him the half-mile down to the nearest road. By the time we got there we were both glad we didn't have to go farther, as the wet grass and gumbo made for hard dragging.

I suppose there are those who would be disappointed that they didn't get the bigger ram whose horns would have scored near the Boone and Crockett minimum, but I didn't look at it that way. This ram was the culmination of 31 years of waiting to get a permit, then 14 days of hard hunting. I learned of a young man who got a ram from his dad's pickup, then was upset with his mother because she didn't get the whole episode on video. I think he missed the point.

There were several folks who, when they found out what I was doing, said, "You're nuts! Why don't you just wait for the rut to get on and then get one from the canal road." I could have done that, but I wouldn't think much of myself if I had. All my life I have been a lover of wild country. Some of my most memorable times have been in the stand-on-end places the West has to offer. I don't need much of a reason to go.

This sheep permit gave me the opportunity to enjoy the solitude of the high country, to get away from the muck and mire of this world's systems. I may never get to go sheep hunting again, but it doesn't matter. In the future when I look at my ram's mounted head, I won't dwell on the fact that he wasn't the largest ram on Castle Reef. Instead I will remember the good friends who took time away from their own busy schedules to go with me. I will think of heat, cold, wind, and silence in the fog.

I will remember the smell of the high country—the frost-cured grass, alpine firs, and whitebark pines. I will remember the grizzly tracks and claw marks. I will remember the black obsidian chips I found above a spring on the east side of Castle Reef and wonder all over again who chipped them, what he was hunting, and how long ago. I will remember the changing colors and hues of the landscape as fall progressed from September into October and then November.

I will remember the day I was almost blown off my feet by the wind, and the day when the weather changed so fast it was hot one moment and freezing the next. I'll remember the tiny, perfect alpine flowers growing in places with no visible soil, yet they managed to eke out an existence somehow.

I wouldn't trade that whole experience and the ram for anything. I will always be able to think back to a time when I had enough iron in my legs to climb from the bottom of Hannan Gulch to the top of Castle Reef and back in one day.

If you have been applying for a special permit and are getting discouraged, hang in there. Thirty-one years isn't so long after all! ■

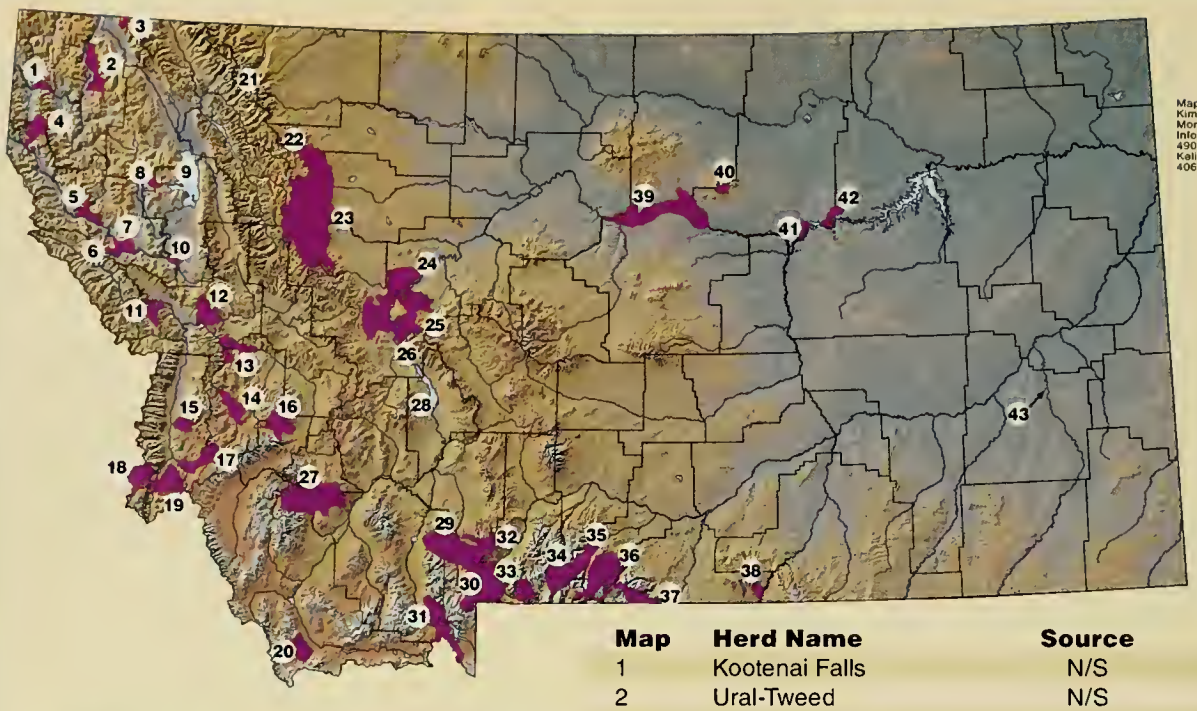
Montana Bighorns

STEVE TORNA

by Glenn L. Erickson

Journals of early explorers indicate Rocky Mountain sheep were widely distributed in Montana in the early 1800s. In describing bighorns near the mouth of the Marias River in 1806, Meriwether Lewis wrote: "These animals abound in this quarter, keeping themselves principally confined to the steep cliffs and bluffs of the river." Swiss artist Karl Bodmer, who accompanied Prince Maximilian on a keelboat journey up the Missouri in 1833, sketched bighorns along the banks of what is now the Wild and Scenic Missouri.

The bighorns of the lower Missouri and Yellowstone River breaks were later classified as the Audubon subspecies, in honor of John James Audubon, the renowned naturalist who traveled up the Missouri



Montana bighorn sheep distribution and population estimates in 2001

N - native S - supplemented T - transplant

Sheep Distribution

Map	Herd Name	Source	2001
1	Kootenai Falls	N/S	40
2	Ural-Tweed	N/S	25-30
3	Ten Lakes	N	50-60
4	Cabinet Mountains	T	70-100
5	Thompson Falls	T	90-100
6	Cut-off	T	110-135
7	Knowles Creek	T	250
8	Hog Hollow	T	50
9	Wildhorse Island	T	40
10	National Bison Range	T	50
11	Petty Creek	T	50-75
12	Bonner	T	50
13	Lower Rock Creek	T	130-150
14	Upper Rock Creek	N/S	200
15	Hamilton	T	60
16	Lost Creek	T	150
17	East Fork Bitterroot	T	125
18	Nez Perce/Sheepshead	N/S	30
19	Painted Rocks	T	70
20	Tendoy Mtns.	T	25
21	East Glacier	N	100
22	Walling Reef	T	90-100
23	Sun River	N	600
24	Sleeping Giant	T	70-80
25	Sheep Creek	T	25
26	Beartooth WMA	T	25
27	Highland Mtns.	T	50
28	Elkhorn Mtns.	T	100
29	Spanish Peaks	N	75
30	Tom Miner Basin/Cinnabar	N	75
31	Taylor/Hilgard Mtns.	N/S	20-30
32	Hyalite Peak	T	30-50
33	Gardiner/Mammoth	N/S	50
34	Boulder River	N	85
35	Stillwater River	N/S	35
36	West Rosebud River	N	70
37	Rock Creek/Hellroaring	N	20-30
38	Pryor Mtns.	T	50-75
39	Missouri River	T	550
40	Little Rockies	T	50-60
41	Mickey/Brandon Buttes	T	100
42	South Larb Hills/Iron Stake	T	50
43	Blue Hills	T	25
	TOTAL (ESTIMATE)		**4,230**

to Montana's eastern border in 1843. The last Audubon sheep was reported killed in the breaks country south of Glasgow in 1916. Over the years, scientists have debated whether the Audubon sheep should be considered a true subspecies. Measurements of available skulls reveal no major distinctions between Audubon and Rocky Mountain bighorn sheep, but there is simply not enough evidence to make a final determination.

Like most game animals, bighorn sheep decreased dramatically during settlement of the West. Contact with domestic sheep, range competition from livestock, disease, and subsistence hunting all contributed to the decline. Montana's bighorn hunting season was closed in 1915, and remained closed until 1953.

Several bighorn die-offs coincided with outbreaks of scabies, anthrax, lungworm, and pneumonia-related diseases among domestic sheep, although

poor range conditions, severe weather, and overcrowding probably played a role as well. Following major die-offs along the East Front of the Rockies in 1925, 1927, and 1932, bighorn sheep in Montana were considered rare or even endangered.

Thanks to regulated hunting, transplanting programs, and habitat restoration, bighorn sheep populations in Montana are healthy today. The first bighorn transplant dates back to 1922, when 12 bighorns from Banff, Alberta, were brought to the National Bison Range at Moiese. But restoration work began in earnest in the 1940s, when funding became available through the Pittman-Robertson Act, a federal law that levies an excise tax on hunting equipment and ammunition and parcels the revenue back to the states.

RODNEY SCHLECHT

This band of bighorn rams near Castle Reef is part of the Sun River herd, Montana's largest.

From 1941 to the present, a total of 1,860 bighorns have been transplanted within Montana. The Sun River herd has been the source for about half of these animals, with the Wildhorse Island, Rock Creek, and Lost Creek herds accounting for most of the remainder. Only two transplants have been made with stock from outside the state: the previously mentioned 12 sheep from Banff and 16 sheep from Colorado that were released in the Missouri River breaks in 1947.

Prior to 1960, fewer than 200 bighorns were transplanted in Montana. During the 1970s alone, more than 560 sheep were captured and transplanted. Of 462 bighorns captured between 1990 to 1997, 368 were used to augment existing populations or initiate new herds in Montana; the remaining 94 were transported to Oregon and Washington to bolster these states' populations.

When bighorn hunting was resumed in Montana in 1953, harvests were conservative at first; licenses were issued primarily for three-quarter curl or bigger rams. By 1974, sheep numbers had grown to the point where adult ewe licenses could be issued to control herd size in some locations. In recent years, the annual bighorn harvest has averaged around 200 animals. The 2000 sheep harvest of 118 rams and 32 ewes represented about 4 percent of the current population.

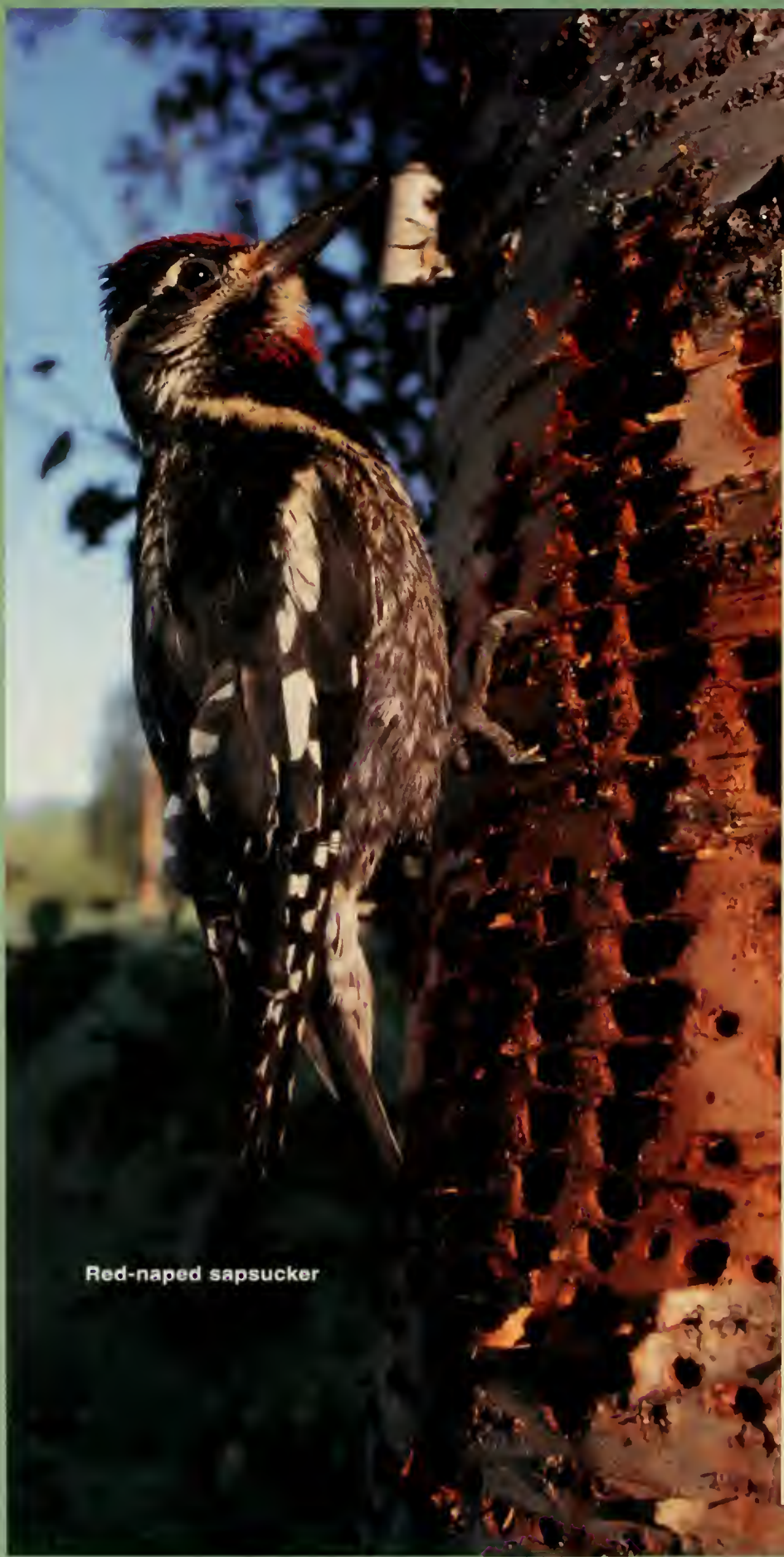
Establishment of sheep populations at lower-elevation sites with favorable range conditions and mild weather has resulted in excellent herd health and high lamb survival. These conditions have led to phenomenal horn growth at some transplant sites. The famed "King" ram, found dead in 1992 in the Highland Mountains near Melrose, Montana, scored 203 5/8 Boone & Crockett points and was only 7 years old. This was the largest Montana bighorn on record until Jim Weatherly took a 9-year-old ram in Granite County on October 9, 1993, that scored 204 7/8.

Although a few new bighorn populations are being established through transplants, most historic habitat in Montana, especially on public land, is already occupied. Today, sheep are often captured and transplanted to augment populations where die-offs have occurred. Recent pneumonia-related die-offs have been recorded in the Highland, Tendoy, and Lost Creek herds.

Biologists have established population objectives for each of the state's herds. In the case of newly established herds, the objective is tentative. The number of licenses for rams and adult ewes issued each year is based on herd composition. Biologists submit their recommendations and final quotas are established by the Montana Fish, Wildlife & Parks Commission following public comment.

Hunters have a variety of sheep hunting opportunities to choose from in Montana. There are "unlimited" areas in the southern portion of the state where a license for a three-quarter curl or better ram can be obtained automatically. Because the season closes in these areas as soon as harvest quotas are met, hunter success tends to be low (often less than 3 percent). Nonetheless, individuals are afforded the opportunity to hunt sheep. The majority of bighorn herds have a limited number of licenses available through an annual drawing. These areas have high success (90 percent or greater), and some areas consistently yield record-book rams.

In 1985 the Montana Legislature approved the sale of one bighorn sheep permit each year to the highest bidder to raise money for wild sheep management. This permit, auctioned at the Foundation for North American Wild Sheep's annual convention, has raised more than $2.1 million dollars for sheep transplants, habitat acquisition and improvement, and research. ■



Red-naped sapsucker

story by Ellen Horowitz
photos by Tom J. Ulrich

It's easy to think of woodpeckers as year-round residents in Montana because the most common—flickers, and hairy and downy woodpeckers—are seen all winter long. Of the 10 woodpecker species nesting in our state, four are seasonal visitors that include the Williamson's and red-naped sapsuckers. For me, the appearance of sapsuckers foretells the hummingbirds aren't far behind.

Sapsuckers, like all woodpeckers, have feet that grip with the power of Velcro and stiff tails used as bracing on their gravity-defying vertical perches. An unusual muscle and bone structure in woodpecker skulls prevents both whiplash and headaches as they pound trees in search of food or in excavating nesting cavities. But unlike their relatives, sapsuckers lack the barbed tongue and sticky saliva helpful for securing insects deep within wood. Instead, their bristle-tipped tongue draws up sap through capillary action.

Feeding on sap is a way of life for sapsuckers. They use their bills to drill orderly quarter-inch holes into the phloem, or sap-producing layer, beneath the bark of trees. The distinctive arboreal tattoos emerge as horizontal rows, vertical chains of tightly clustered holes, or checkerboard patterns. New perforations always appear above the old. These incisions, drilled deeper at the back and bottom, form

Sap on Tap

miniature cups that contain the sweet liquid.

In northwestern Montana where I live, the red-naped sapsuckers show up around the end of April or early May. Upon their arrival, they tap almost any conifer—hemlock, spruce, fir, even lodgepole pine. When the birches, aspens, willows, and other deciduous trees and shrubs leaf out and begin photosynthesizing, sapsuckers switch to them because of enhanced sugar flows. A glistening sap-covered bill is to a sapsucker what a white milky mustache is to a milk drinker. They get into it!

At one time it was believed that sapsuckers drilled holes in trees just to attract insects. Although they take some insects in this way, and feed on the cambium of trees, they drill primarily for sap. Insects form an important component of their diet whether gleaned from bark or caught on the wing in flycatcher fashion. They also combine "food groups" by dipping insects in the sweet fluid. Grabbing a wasp or beetle in its bill, a sapsucker beats the hard-bodied bug against a tree knot in an avian form of food processing. Then it drags the softened remains through the candy coating. More delicate insects like stoneflies or craneflies do not require tenderizing. Instead, they are smeared through sap the way we might sop up gravy with a piece of bread.

Sap and the insects attracted to it are sought by a variety of feathered, furred, and other six-legged creatures. Sapwells, like the most popular 24-hour cafes, are places of nearly continuous activity. More than 40 species of insects have been identified at the red-naped sapsucker's tap. Butterflies, moths, hornets, yellow jackets, flies, beetles, and ants are among the insects that eat or are eaten at these natural feeding stations. When small flies drown in the ooze they become part of a diet consumed by vertebrates.

In the late 1800s, naturalists observed hummingbirds feeding at sapsucker wells. For decades the hummer's migration mystery perplexed birdwatchers. What do these tiny birds eat during their long journeys when nectar-producing flowers aren't in bloom? Tree sap is often the only food available during their northern migrations. It is equally important in late summer when low-elevation blossoms dry up. Tree sap and nectar from hummingbird flowers are chemically and physically similar. In studies of hummingbird-sapsucker associations in northern climates, Richard Miller and Robert Nero suggested that tree sap may be a more dependable and profitable energy source even when floral nectar is available. They believe that hummingbirds occupy a wider range of habitats thanks to sapsuckers. Evidence also suggests that the spring arrival dates and northern breeding range of ruby-throated and possibly rufous hummingbirds are determined by availability of sapwells. Montana's three common hummingbird species—rufous, calliope, and black-chinned—feast on the high-energy food.

Hummers aren't the only birds looking for a free meal. Hairy, downy, and three-toed woodpeckers come to drink. Ruby-crowned kinglets, red-breasted and white-breasted nuthatches, and MacGillivray's and yellow-rumped warblers also sip the 20- to 30-percent sucrose solution mixed with a dash of amino acids. Approximately three dozen species of birds are associated with sapsucker trees—some visit for sap, some for insects, and some for both.

A few mammals eat at the sapsucker's table. Sap has long been recognized as part of the squirrel's diet. Red squirrels and chipmunks lap from wells and along tree trunks where the sticky syrup drips.

As day turns to night, other animals move in. Moths replace butterflies. Flying squirrels replace red squirrels. Even bats take advantage of night-flying insects homing in on the sugary treats.

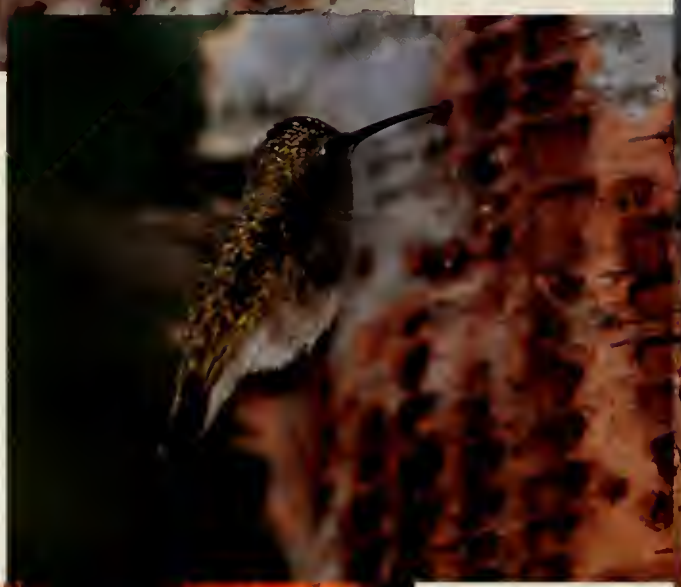
Since sap attracts many different animals, competition occurs around this food source. Sapsuckers and the uninvited guests squabble over who eats next. Sapsuckers chase hummingbirds

and chipmunks; warblers clash wings with warblers; butterflies wait until hornets and birds leave. A social hierarchy develops. Anyone who spends time observing birds at a backyard feeder watches similar interactions.

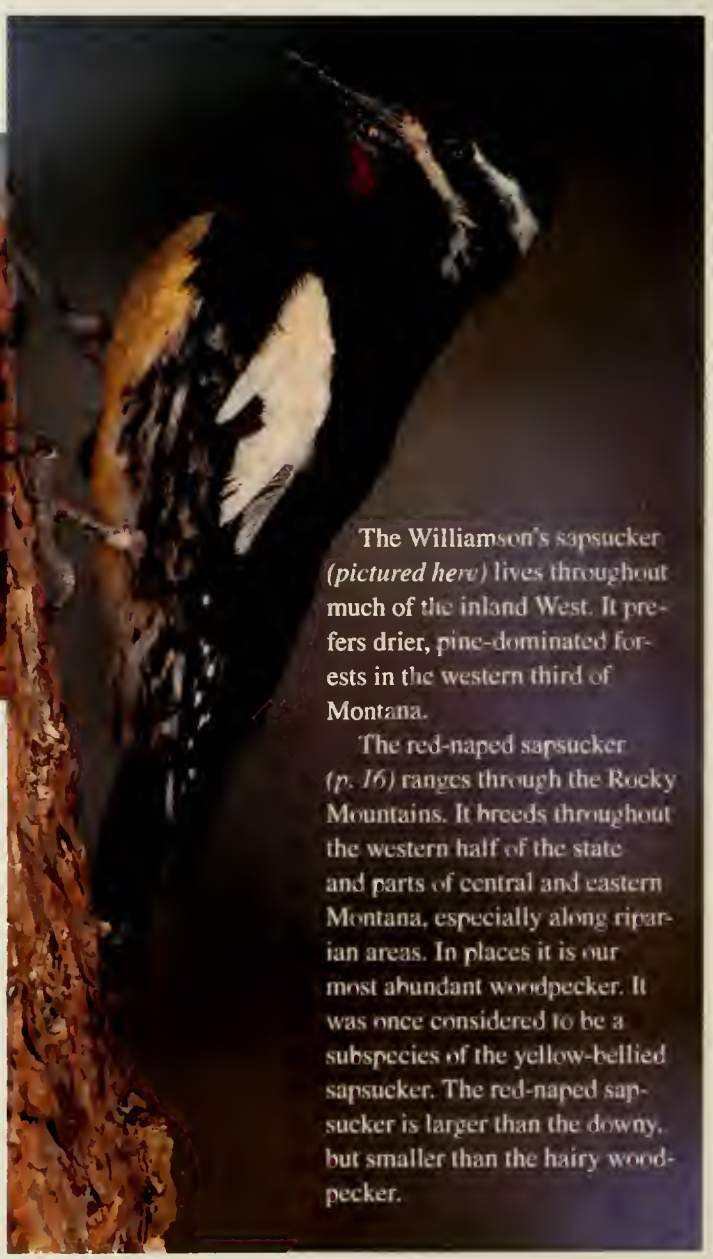
Sapsuckers have often been persecuted because of their reputation for killing trees by drilling for sap. Death occurs when holes encircle the trunk and cut off the flow of vital fluids needed for growth. But girdling is not found on all trees. The "damage" caused by sapsuckers must be looked at in perspective.

By providing abundant nourishment for themselves and many other sap feeders, sapsuckers play a significant role in the forest community. (The nesting cavities they excavate are used by many birds, further increasing their importance—but that's another story.) Sapsuckers are described as "keystone species," meaning they influence the species composition in a given area. The feeding (and nesting) sites they provide form the foundation, or keystone, that supports numerous insects, birds, and mammals. Their loss would reduce diversity.

With the return of the sapsuckers each spring I know the woods are a richer place. ■

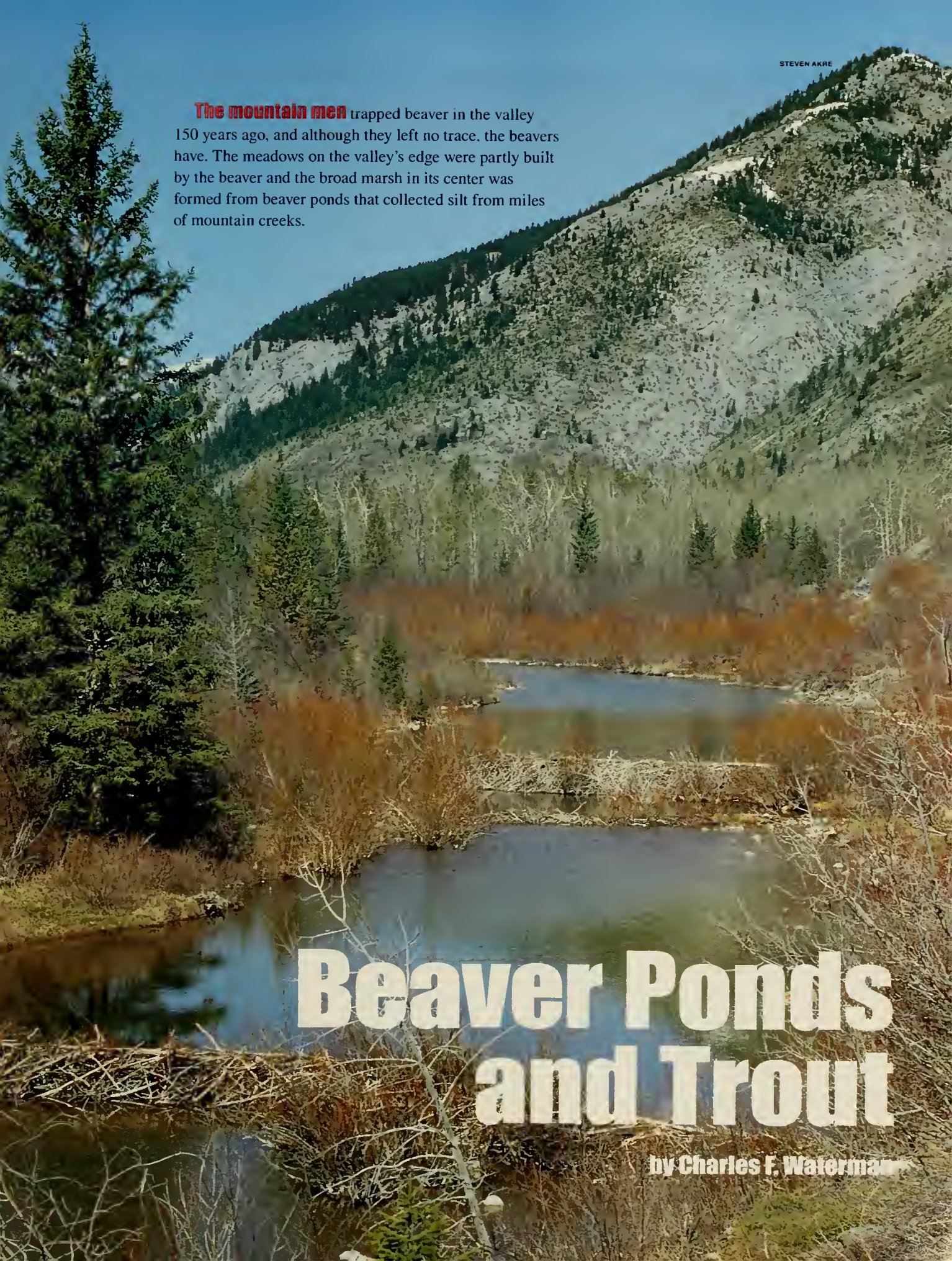


Sapwells created by Williamson's and red-naped sapsuckers provide food for moths, flies, hummingbirds, and many other birds and insects.



The Williamson's sapsucker *(pictured here)* lives throughout much of the inland West. It prefers drier, pine-dominated forests in the western third of Montana.

The red-naped sapsucker *(p. 16)* ranges through the Rocky Mountains. It breeds throughout the western half of the state and parts of central and eastern Montana, especially along riparian areas. In places it is our most abundant woodpecker. It was once considered to be a subspecies of the yellow-bellied sapsucker. The red-naped sapsucker is larger than the downy, but smaller than the hairy woodpecker.



STEVEN AKRE

The mountain men trapped beaver in the valley 150 years ago, and although they left no trace, the beavers have. The meadows on the valley's edge were partly built by the beaver and the broad marsh in its center was formed from beaver ponds that collected silt from miles of mountain creeks.

Beaver Ponds and Trout

by Charles F. Waterman

JIM JACKSON

In dry summer the creeks appear to carry no silt at all, but when the high snows melt or the canyon thunderstorms gather, the creeks run overfull and brown with earth and the beaver ponds catch it, filling slowly to be abandoned by their engineers. The beavers build higher up, or lower down, and they build almost everywhere—Michigan, Maine, or Colorado. They are a blessing or a curse but their ponds are a way of fishing from coast to coast. They're most spectacular in rough country, but are often equally trout-filled where the streams are slow and where new dams drown the brush that lined the meadow creeks.

You'll hear of the "little brookies" in the beaver ponds and there are ponds where they are tiny; victims of the brook trout's way of overcrowding. Sometimes the Western ponds contain little cutthroat instead of the brookies, sometimes they have little browns or rainbows—and sometimes they have *big* trout of almost any kind.

Beaver ponds can bring depth to a shallow creek that could support few or no trout without them and they can support healthy fish in deep water beneath heavy ice. At other times and places beaver ponds can become shallow and spread a cold brook into silted flats, defenseless under summer sun. Then the water becomes too warm for any trout at all. Or it freezes solid.

The beaver have not figured out these things, or if they have they are not interested in trout or trout fishermen. To them trout are an unused by-product of their construction projects.

A series of ponds coming down from the high country can be good for fishing in some spots and bad for it in others, and it can condense several kinds of

Beaver ponds may be filled with overcrowded runts or big trout of almost any kind. The only way to find out is to explore.

fishing into a short afternoon's hike. Sometimes there will be a big super-beaver-dam with a shallow, silted marsh above it containing runty little fish that will charge anything they might be able to defeat. Below it might be a stretch of deep, slow current where a careless step will send startlingly large shadows darting beneath undercut banks.

So to say you have been "fishing the beaver ponds" will mean something different to almost every angler and is about like saying you have been "fishing a trout stream." Beaver-pond residents range from gluttons who gulp Muddler Minnows a third their size to persnickety veterans who push up cautious swells beneath #20 duns and flee from the first kinky leader.

You can learn a chain of beaver ponds and then learn anew from repeated trips. Beaver ponds, of course, are the big rodent's intrusion upon the more conservative forces of nature. You can sometimes stand on a rock-steady dam that forms a perfect casting platform. You can also damn near drown yourself in a sort of silt, water, willow and alder man-trap that seems to serve no purpose to the beaver other than building practice, since he has abandoned the mess and built his house somewhere else.

Beaver-pond fishermen tend to become explorers, especially in valleys where the beavers have been perennially busy. Inexperienced beaver-ponders are likely to try one or two pools, and if the fishing is poor they decide it's probably the same on up the creek, but there are good ponds and bad ponds, sometimes for reasons I cannot fathom, and I am forced to fall back on chance for answers. Maybe the good fish just happened to be caught in this pond and never were able to work into that one. Maybe they have been eating overcrowded runts in this pond or reproduction must have run away in that one. A scientific approach ruins the fun anyway.

Beaver-pond fishing isn't considered very technical in most circles. The late Dan Bailey, the fly maker, was an inveterate beaver-pond seeker. He was capable of the most delicate approaches with the smallest flies, or course, but confessed most of his beaver-pond triumphs were over less selective fish. I am almost embarrassed at the number of times I have followed him to beaver ponds he had located through exploration and that I had reached through slothful mimicry.

There is one creek in mid-Montana so overshadowed by bigger water that only a few years ago there was but one set of wader tracks in its marshy spots. They were Dan's and I got there a week after he fished it, following his directions.

On one side of the creek is a pine ridge with a little rimrock and on the other side is a pastureland bench with a good view of the whole valley. The tepee rings are on the bench: neat circles of stones laid out to form an Indian village, the only sign of the hunters and fishermen who lived there before the brown, rainbow and brook trout were brought to the nearby Smith River. If you will climb up to the tepee rings you will see much of the little creek and can figure a route to the beaver ponds and avoid being trapped in the marsh. The

Beavers at times create problems with their handiwork but their ponds provide fishing from coast to coast.

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creek and its ponds have a wide strip of willows and the grass is lush on both sides.

When I worked up the creek below the dam I used a Hairwing Coachman with a little seven-foot rod that would stay out of the willows as long as I watched my short backcasts. Most of the fish were rainbow that lived near the heads of the pools. The big dry fly would come down the chattering little runs looking enormous. Then, as the fly reached where the rough water flattened, you could almost foresee the strike when the fish would come from the deep side under the willow roots. In the wide, slow places the creek would be 10 or 15 feet wide and if the biggest fish were no more than a foot long I could still be happy, for the scene was reduced to miniature and a king salmon would have been out of place.

The big dam was higher than my head as I came up below it. Water gurgled through it well down toward the base but it was fairly new; a product of beaver over-achievement, apparently thicker than need be.

When I cautiously put my head above the dam a family of mallards slapped and quacked their way into the air off to one side and I involuntarily ducked a little. The pond was more than 100 feet long and almost filled with drowned willows. The original route of the creek was a slightly curved path through the brush and as I assessed the water there was a subtle movement in the willows—too big for a 10-inch fish—just a slow bulge.

The wind whistled downstream but I had backcasting room and I threw the fly into it. The leader crumpled awkwardly but my effort was not a complete failure and the fly landed sloppily at about the middle of the old creek channel. Two fish came for it and I landed a brilliant rainbow, thick and small-headed. Once hooked, it stormed across the surface, leaving patches of bubbles, and although I supposed the fishing was over for the time being, I slapped the fly back and caught a brook trout some 14 inches long. I also caught a smaller brown trout. If I could have raised a cutthroat it might have been a sort of poor man's grand slam but I was satisfied with three fish, headed for the next dam and went in over my waders.

The beaver dam was breached two years after I followed Dan's trail, a spring freshet being too much for it. But it had begun to collect silt anyway and the beavers or their descendants have built new dams farther upstream, one of them a disgrace to the beaver clan. It leaked and broke at one end, but the water rounded it in a curve and dug a shady hole against the bank. When I floated the #14 Cahill across that hole in another year a brown trout took it and tangled me in some roots.

Over at Bangtail Creek the brush was thicker and the stream went through chokecherry patches and rosebushes to where the beaver ponds, acres of them, spread broadly, reflecting sunlight in patches. I'd seen the wakes of startled fish one fall as I'd hunted ruffed grouse there and we worked hard to get room for even a roll cast. We'd planned the trip for a year. The fish came but they were six-inch cutthroats and we gave up after an hour or two and trudged out. I suppose if the fish had to be small it's better that they were "natives."

They've probably been there since before the tepee rings were laid over near Smith River. ■

Beaver pond brook trout range from gluttons that gulp Muddler Minnows to spooky veterans that turn up their noses at all but the most delicate flies.

DALE C. SPARTAS

The Golden Years of Trout Fishing

by Neil Cantwell

DAVE BOOKS

It has been said each of us enjoys a decade or two in his life that stands out from the rest. For me, it was the 1950s and 1960s—a period I consider the golden years for anglers in Montana. I certainly don't mean to kick sand in the faces of modern day fly-fishers, even those stalwarts who memorized most of the scenes from the highly publicized movie, "A River Runs Through It." But it was a special time, before rivers like the Madison, Yellowstone, and Blackfoot became famous. The specter of whirling disease hadn't reared its ugly head. Instead of enrolling in a three-day fly-fishing school, the novice learned his trade at the knee of his more experienced brethren.

This period in our history could also be called the "Golden Age of America." The country enjoyed peace and prosperity (discounting the conflict in Korea). We elected Dwight D. Eisenhower as president—a fine, upstanding man, and an accomplished fly-caster to boot. It was a time the likes of which we may never enjoy again.

One warm autumn day in the early 1950s, with the cottonwoods turning yellow, I turned off the highway and onto the main street of Livingston, Montana. Newly transplanted from Colorado, I was on my way to our new home in Butte ("The Richest Hill on Earth"). Parking my 1951 Ford on Park Street beside the railroad station, I scurried across the street, attracted by a sign that said "Dan Bailey's Fly Shop."

"Dan Bailey, huh? Never heard of him," I remember thinking.

His next-door neighbor, though, was a well-known souvenir shop whose myriad road signs, scattered all over the state,

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The Yellowstone River (above) drew Kentucky-born Dan Bailey to Montana in the 1930s. In 1938 he opened Dan Bailey's Fly Shop in Livingston, a business famous for quality merchandise and friendly advice. An internationally known angler and conservationist, Bailey (right) died in 1982. His son, John, now operates the business.

DOUG O'LOONEY

read: "Gil's Got It. Livingston, Montana."

Entering the fly shop, I saw a short, squatty gentleman hunched over a roll-top desk, peeking away at a typewriter. Barely greeting me with a nod, he returned to his work. Towards the rear of the narrow shop, several women were tying flies. Wandering through the store, I was overwhelmed by the variety of merchandise. Dozens of fly patterns were separated into bins. The selection, though modest by today's standards, simply floored me. Fishing boots, chest waders, fly and spin rods, and several brands of reels were also on display. The new Mitchell 300 was stocked also—a reel that would soon change the complexion of spinfishing the world over.

The man at the desk finally looked up from his work and said, "Anything I can help you with, young man?" (This event took place many years ago, you see.)

"Yessir," I replied. "As I drove along the Madison River today, I noticed folks standing in the water—fishing, I suppose. I've never fished before, but it looks like fun. I'd like to give it a try."

This statement got the man's attention. He pushed away from the desk and approached me. Extending his hand he said, "Name's Dan Bailey." Then he turned and ambled over to a wooden rack that held, as I remember, around two dozen rods of both the fly and spin variety. Deftly removing a white fly rod, he handed it to me. "These new Shakespeare Wonder Rods are the rage now," he said confidentially. "They've pretty much replaced the more expensive and scarce bamboo."

I inspected the rod, noting the bright red wrappings.

Dan was on a roll now. "A nice rod," he

continued. "Eight-and-a-half feet in length, medium action. How do you like it?"

I proceeded to whip the rod back and forth, just as I had seen the anglers on the Madison do.

"Like the action?" he inquired. "It's one of our most popular models. Or maybe you'd prefer a spinning rod?"

"No, this one is fine. What's the price tag on it?"

In his most conspiratorial manner, Dan replied, "Made a great buy on these rods last winter. They're a bargain at only $29.95. A fair price for a fly rod of this quality."

"Sounds good," I said. "How about a reel to go with it?"

Opening a box, Dan unwrapped an aluminum model, saying, "This is a Perrine. One of our best sellers. It holds almost 35 yards of line."

"Is it simple to operate?" I asked.

Dan then demonstrated the workings of the Perrine for me.

"You simply push this lever," he explained. "It'll take in the line automatically." He wasn't kidding.

"What about a fishing line?" I asked my mentor.

Producing another box, Dan unrolled a green fly line. "This is a double-taper floating line," he said. "I'd suggest you start with it."

"Any other color besides green?" I grimaced. "Green's not one of my favorite colors."

"Green is the most popular color," he grunted. "Besides, it's the only color this line comes in." (Even now, 50 years later, I can almost read his mind: "Where in the world did this bozo come from?")

"Fair enough," I answered. "I've got the rod, reel, and line. What else do I need?"

Bailey replied, "You'll probably want hip boots for now, but later on you'll want chest waders, I imagine." Another box was opened, and a pair of green rubber boots appeared.

"A good price on these," he explained. "Nine ninety-five, with cleated soles."

"Size nine looks about right," I said. "What's left now?"

"You'll need some leaders or leader material," he said. "Most of the locals tie their own. It's cheaper and works just as well. I'll show you how to tie them later. I'll pick out several good fly patterns—the ones we sell the most of." With that, he opened the fly bin and began to pick out flies.

"We'll start with Marabou streamers," he said. "Black, yellow, and white. Supposed to imitate a minnow. Now, a few Woolly Worms—black and yellow, along with some black and orange, or True Woolly Bear. Black with a red tail is a good choice."

Dan rambled on: "Now here's one of the most popular patterns used in the state," he said, handing me a card with four flies attached to it.

"How come these flies have leaders attached to them?" I asked.

"I'm coming to that," he replied, producing a roll of monofilament line. "Here's the way to tie a dropper on the leader." (He demonstrated.) "Tie it about half way up. Then hook the dropper fly onto the loop. One of the Potts flies, or a Hopper, is most often used as the top fly. Sandy Mite, Mr. Mite, and Brown bear/black seem to catch more fish. And in the fall," he continued, "the Hopper on the Dropper is a killer."

Warmed up now, he went on: "You see the 'Wall of Fame' over there? Look it over and see which patterns accounted for the largest trout. Chances are it will be one of the bottom flies—Marabou, Muddler, or the like."

The Wall of Fame featured colored outlines of trout caught in the vicinity on Bailey patterns. The fish had to weigh at least four pounds to qualify. Most were taken on large flies: 6's, 8's and 10's. Not a No. 24 pre-emerger in the bunch. As Dan told me, "Big fish like big flies."

"I think that's everything," Dan kind of smiled. "Let's total it up."

"Good Lord," I thought. "This bill will look like the national debt before he's done."

"Let's see, now," he began. "First the rod—$29.95; the reel—$9.95; fly-line—$7.95; fishing boots—$9.95; 18 flies at 35 cents each—$6.30; two packs of 4-lb. test leader material—$1.00."

"Now here's the total," he said, pipe afire once more. "Call it an even $65 for the complete outfit."

I proceeded to write a check for the total.

"Well," he said. "Looks as though you have all the equipment you'll need to get started. Let's hook up the rod and reel and you can try it out."

Grabbing the rod, reel, and line, Dan made a beeline for the front door, me trailing along behind. Standing on the sidewalk in front of the store, he hooked up the line and began to cast.

"Now watch me," he instructed. "Don't come too far back on your back cast, or you'll be in the bushes." After a few minutes, he handed the Wonder Rod to me and said, "Now you try it."

"That's it," he smiled. "Handle the line with your left hand. Above all, don't worry about distance. Thirty to forty feet is where you will hook most of your fish anyway."

"Good," he said. "You'll get the hang of it soon. All you need is some practice. In fact," he continued, "fly casting in many ways is similar to golf. When you get the basics down, then it's all in the practice."

With the transaction completed and instructions over with, I was given directions on how to get to his favorite spot on the Yellowstone: "Head south out of town past the drive-in. Stay to the left and soon you'll be on the east side of the river. Watch for the Pine Creek sign and grab a right. It's a half-mile or so to the Red Bridge. Park there and hike down to the river. Joe Brooks and I fish this section of water whenever he's in town."

With a sly wink to his partner, Red Monical, Dan Bailey shook my hand and wished me luck.

And so began my 50-year love affair with the storied trout streams of the Treasure State. ■

Getting 'em Hooked

story and photos by Larry Javorsky

THERE'S A GROUP of fishermen in the Bitterroot Valley who have a vision.

"When I look out into this room, I don't see just a bunch of kids," Bear McKinney explained to me one evening. "I see anglers, game wardens, biologists, fishing guides—I see the future of trout conservation. When we're gone someone's gotta take care of the resource." He swept his index finger across the room. "They're the ones!"

I looked out over the room. It was filled with kids sitting around tables talking excitedly and working hard on something made of feathers and thread and hair. The kids were invited to the group for one reason.

"We want to get them hooked on fishing," claimed Ken Carter, one of the main instigators of the group, which is called the Bitterroot Buggers. "If we can get 'em to the first meeting of the year, we've got 'em hooked."

And how do they get them hooked? By tying flies.

"There's something about making a tiny artificial insect capable of capturing a fish that grabs a kid," he continued. And he's right. One child I spoke with the first night I went to the Buggers showed me a box of flies he had tied himself.

"What's your favorite one?" I asked him.

"I dunno," he answered. "I've never fished with 'em yet."

Why would a kid sit at a table for hours tying little flies if he'd never flyfished? "The bug bites 'em," claimed Ken. "I can't explain it, but it happened to me when I was 14. That's when someone grabbed me, put a fishing rod in my hands, and steered me away from trouble. I got bit by the bug, and I was hooked."

He's been hooked now for 47 years, and wants to provide that same opportunity for kids in his community. That's the sort of motivation that drives the vision.

The first few meetings of the Buggers begin with a fly-tying demonstration, followed by time for each child to tie some flies of his own. Trout Unlimited (TU) supplies the materials and tools for those who don't have the equipment. The

later meetings cover casting techniques and educational topics like knot tying and aquatic entomology. The goal of the group is not just to make the kids into fishermen, but to make them into knowledgeable fishermen as well.

This group of fishermen is so convinced that education is important that they've placed aquatic education materials in all of the local school libraries and sponsored aquatic education workshops for teachers and students. These materials and the materials used by the Buggers come with a high price tag. But to this group the cost isn't even an issue. "It's the best investment we can make in out future," said the chapter president, Tony Tomsu.

Besides, it's part of the vision.

"People like to complain about how bad things are getting and how bad kids are," Ken explained to me. "One day we decided to do something instead of complaining."

And that's essentially how the vision was born. Soon after that meeting several TU members took fliers to nearby schools and gave presentations in the classrooms. That first year they averaged only 10 to 12 kids at each meeting. Now, three years later, they're averaging nearly 50 kids ranging in age from 8 to 18 years. Only a handful are repeats from last year.

"We get mostly boys," Bear acknowledged. "But we have had a couple of girls. Last year our only girl was a senior in high school! She was a great tyer, too."

I spoke with one of those girls one night.

"I like goin' fishing with my grandpa the most," said Ashton, age 10. Her uncle Eric had made her a nice wooden fly-tying box to keep all her materials in, and she had it proudly displayed on the table.

Many of the kids have parents that come along to watch or to supervise. I am one of those parents. My two oldest sons love the group. It's a chance for them to do something fun with their friends. They are so excited about the group that one of my boys is planning to tie flies with his friend and sell them at the local farmers market this summer.

"It's a great activity for parents to share with their kids," Bear once said. "We try to encourage the older kids to help the younger ones, too."

"Yeah, kids helping kids," Ken Carter added. "Instead of hurting each other."

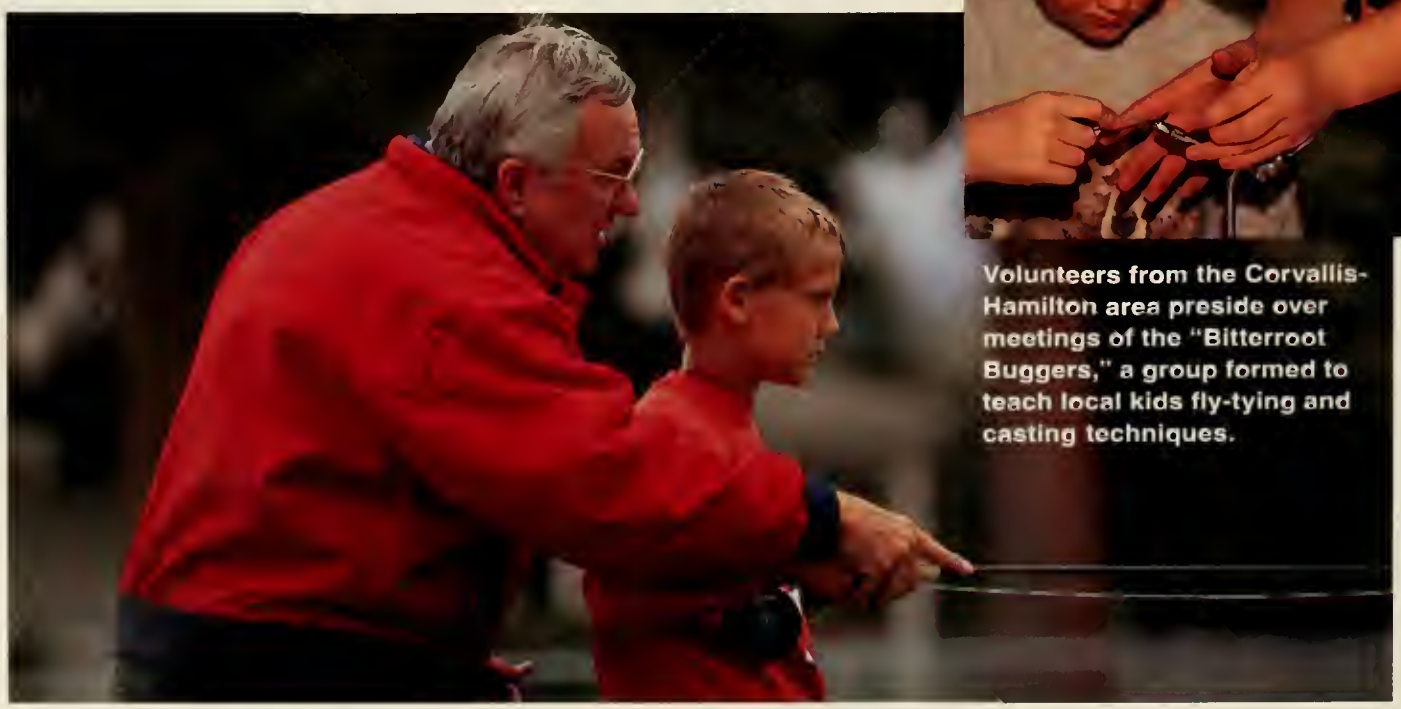
During one visit to the Buggers last year I saw a young boy approach Ken and Bear as they were talking. He handed each of the two men a folded piece of paper, quickly turned around, and headed for the door. The two men said goodbye and looked down at the papers they'd been given. They each had a handmade card. On the outside was a simple drawing of a fisherman. Inside was a sketch of a fly and the inscription:

Thanks for all of your hard work and help.

Austin.

Both of those big, gruff-looking men choked back an emotion and smiled a big smile.

"That's what it's all about," Bear said quietly, holding the card out so I could read it. "That kid hadn't seen a flyrod until he came here last year. Now, he's hooked...." ■



Volunteers from the Corvallis-Hamilton area preside over meetings of the "Bitterroot Buggers," a group formed to teach local kids fly-tying and casting techniques.

Catchall

FWP Biologists Receive Touchstone Award

Rollin Sparrowe, president of the Wildlife Management Institute (WMI), presents WMI's 2001 Touchstone Award to Gayle Joslin (center) and Heidi Youmans.

At a special ceremony on March 20, at the 66th North American Wildlife and Natural Resources Conference in Washington, D.C., Gayle Joslin and Heidi B. Youmans, wildlife biologists with Montana Fish, Wildlife & Parks, received the Wildlife Management Institute's 2001 Touchstone Award. This international award recognizes persons in natural resources management whose ingenuity and initiative have resulted in a program or product that notably has advanced sound resource management and conservation in North America.

On behalf of the Montana Chapter of The Wildlife Society, Joslin and Youmans jointly championed and coauthored *Effects of Recreation on Rocky Mountain Wildlife: A Review for Montana*, published in September 1999. This extraordinary compilation enables natural resource managers to address impacts of motorized and nonmotorized recreation on wildlife. Joslin and Youmans recruited and organized Montana Chapter volunteers to review more than 1,300 studies and produce this comprehensive report. Another 3,000 studies are listed in its annotated bibliography.

The Montana Chapter of The Wildlife Society recognized in the late 1990s that outdoor recreational activities have expanded tremendously in recent years. The Chapter further realized that motorized and nonmotorized activities could adversely impact wildlife resources and habitats.

A number of studies evaluated these potential impacts, but a need had long existed to compile an in-depth manual for resource professionals. No agency or entity took on the task until Joslin and Youmans volunteered what would become thousands of hours of personal time from 1997 to 1999 for this purpose. They raised $70,000 for project expenses, motivated a cadre of volunteers, and got the job done.

Rocky Mountain Wildlife helps identify, review, and annotate existing studies and compiles the information into one document. The manual provides guidelines to address wildlife and habitat during state and federal agency planning efforts and enables the public to offer technically competent commentaries to this process.

The Wildlife Management Institute selected the duo as its 2001 Touchstone Award winners after reviewing more than a dozen top-quality nominations. This significant investment by Heidi and Gayle, done as volunteers on behalf of the Montana Chapter of The Wildlife Society, most impressed WMI judges.—*Wildlife Management Institute*

FWP Offers New Internet Hunt Planner

Montana hunters can now turn to FWP online to plan big game hunting trips.

FWP's "Interactive Hunt Planner" allows users to select a species to hunt and then quickly provides information from Montana's Big Game Hunting Regulations and easy-to-use databases. The planner also displays hunting districts against Montana's new digital highway map. Additional options provide topographic maps and land ownership maps that can also show big game species distributions. The hunt planner's mapping power was developed in partnership with the Natural Resource Information System in Helena.

Several of the planner's databases also contain harvest statistics, special drawing statistics, information on harvest quotas, and special hunting district opening and closing dates associated with specific hunting areas.

"We designed this interactive program with the hunter's needs in mind," said Janet Hess-Herbert, leader of FWP's Web site team. "We think it will be a useful as well as educational tool for hunters and others interested in Montana's wildlife."

The Interactive Hunt Planner is free and can be accessed at fwp.state.mt.us. The planner contains information on antelope, bighorn sheep, deer, elk, moose, black bear, and mountain goat. Future enhancements will include additional game species distribution maps, sunrise and sunset zones, and wildlife management area locations.

Quinn Honored by Hunting Group

Bigfork-based Game Warden Mike Quinn received the prestigious Shikar-Safari Club International's "Montana Wildlife Officer of the Year Award" for 2000.

Quinn was recognized for his exceptional skills in investigating and solving wildlife crimes, his commitment to his work, and his dedication to the resources he is charged with protecting.

"He is a superb, well-rounded warden," said Ed Kelly, the warden captain in northwestern Montana in FWP's Region 1. "He has a wealth of experience and he does a tremendous job putting that experience to work and sharing it with others, strengthening our enforcement work in the whole region."

The Shikar-Safari Award winner is selected by FWP's director from among nominations submitted by warden captains in each of the seven FWP regions. The award goes to a warden with exceptional skills, strong professional relationships with hunters, anglers, and landowners, high performance standards, dedication to the wildlife law enforcement profession, and a commitment to the community.

The Shikar-Safari Award has been presented to a Montana game warden each year since 1969.

The Shikar-Safari Club International was founded in 1952 by a group of international hunters who joined together to exchange experiences and ideas about hunting. This primarily social organization soon grew into an active commitment to conservation issues. In he early 1970s, the Shikar-Safari International Foundation was formed to carry on various conservation projects throughout the world.

FWP Game Warden Mike Quinn (right) receives the Shikar Safari Club International Montana Wildlife Officer of the Year Award for 2000 from Region 1 Warden Captain Ed Kelly.

JOHN R. FORD

Auctions Generate Revenue

Montana's 2001 bighorn sheep auction license was put on the block at the Foundation for North American Wild Sheep's annual convention in Reno, Nevada, last winter, and went for the highest bid of $100,000. FWP received $90,000 of that amount to be used to secure key habitat and to bolster research efforts on bighorn sheep, as well as to conduct trapping and transplanting. FNAWS keeps 10 percent of the funds to administer its bighorn sheep grant program.

Montana's moose auction license was auctioned at the Montana Outfitters and Guides' annual meeting and sold for $15,000. Like the sheep revenue, the money generated by the moose auction is channeled into management efforts.

Bighorn Poacher Apprehended

Poaching of a bighorn ram in the Elkhorn Mountains south of Helena resulted in a Toston, Montana, man being placed on felony probation for five years and ordered to pay $30,000 in restitution to the State. The individual also forfeited his Montana hunting and fishing license privileges for three

years. The law under which this case was tried was passed by the 1999 Montana Legislature to address the unlawful and willful taking of trophy class big game animals. The restitution amount is set in statute. In this case, the sheep's horns exceeded three-quarter curl, qualifying the offense for the $30,000 restitution.

TIP-MONT Board Rewards Callers

The TIP-MONT program's board of directors awarded $5,800 to 10 individuals who offered tips in 2000 that led to the apprehension of violators.

Cases for which rewards were paid varied from out-of-season hunting to exceeding limits and baiting, said Shelly Hiron, TIP-MONT coordinator for Montana Fish, Wildlife & Parks in Helena. The cases involved unlawful killing of a variety of big game animals, fish, and furbearers.

A record number of calls came into FWP's 1-800-TIP-MONT hotline in 2000. "We logged over 1,000 calls last year, the most calls in the 16-year history of the hotline," said Hiron. The increase in tips appears related to a Montana public that is less tolerant of poachers and vandals who destroy public property. "People want to protect our fish, wildlife, parks, and forest lands. We hear it almost every day and not just during hunting season. We're answering a lot more calls that report violations at fishing access sites, at our state parks, and even in our national forests," she said.

The Montana Legislature authorized FWP to establish a toll-free fish and game violation hotline—1-800-TIP-MONT (1-800-847-6668)—and to offer rewards to those who call in tips. Since 1985, use of the line to report known or suspected violations of fish and wildlife laws has grown markedly.

"It's important that people call us immediately when they witness a violation and provide as much specific information as they can. The faster we can begin working on a crime, the better our success in solving it," Hiron said.

Over the years, thousands of tips about suspected violations have been received over the hotline. The line is open 24 hours a day and callers can remain anonymous, do not have to testify in court, and may receive a reward for a tip that helps protect Montana's fish, wildlife, and parks resources.

FWP Centennial Video Wins OWAA Award

A Montana Fish, Wildlife & Parks documentary that chronicles the agency's first 100 years of conservation through stories told by Montana cowboy poets recently received two top awards from the Outdoor Writers Association of America (OWAA).

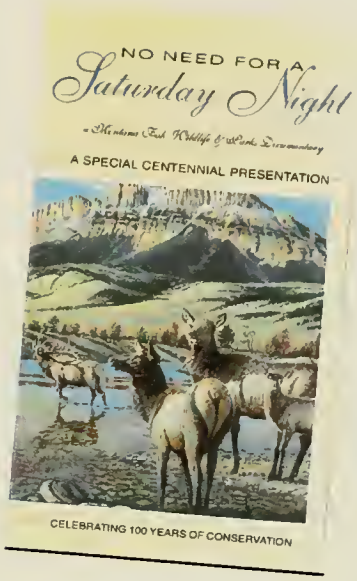
In the OWAA-sponsored North American Film and Video Awards, FWP's "No Need for a Saturday Night" was selected as the top conservation/natural history film and also won the "Best of the Best" award for overall excellence.

"This is one of the most outstanding films that we have ever seen produced for a state agency," said contest chairman Glenn Lau, a Florida film maker. "In fact, it is one of the best films we have seen in years of competition." The judging took place in Ocala, Florida, in February.

FWP marked 100 years of conservation in March, a celebration that will continue throughout the year. On March 18, 1901, Montana's seventh legislature passed an act to provide for the appointment of a state game and fish warden to establish what would eventually become today's Montana Fish, Wildlife & Parks department.

To help mark the occasion, renowned western artist Larry Zabel created "Sun River Challenge," an original oil painting that commemorates the creation of the Sun River Game Range. In addition, FWP has published a special edition of *Montana Outdoors* magazine, and produced its award-winning documentary video, "No Need for a Saturday Night."

The video, directed by FWP videographer Mike Gurnett, chronicles the history of conservation in Montana



through the words of Montana cowboy poets Mike Logan, Wally McRae, Sandy Seaton, and Paul Zarzyski, and musicians Jack Gladstone and Rob Quist.

The video is available free of charge for screening at meetings, classes, or conventions. Copies of the 30-minute video also are available for $9.95 on VHS tape. For information call your nearest FWP office.

MONTANA FISH, WILDLIFE & PARKS FOUNDATION

The Montana Fish, Wildlife & Parks Foundation raises funds to provide critical private support for FWP in its stewardship of the fish, wildlife, parks and recreational resources of Montana. The foundation accepts individual and corporate gifts and assists in designing planned gifts to fit individual needs. For more information visit the foundation web site at *http://fwp.state.mt.us/foundation* or e-mail at *fwpfoundation@state.mt.us.* You may also call or write

406-444-6759
MFWPF
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Our State Parks:

Celebrating Past and Future

Maybe it's the water, maybe it's the wind. Whatever the reason, four of the top five winners in this year's state parks poster contest hail from north-central Montana.

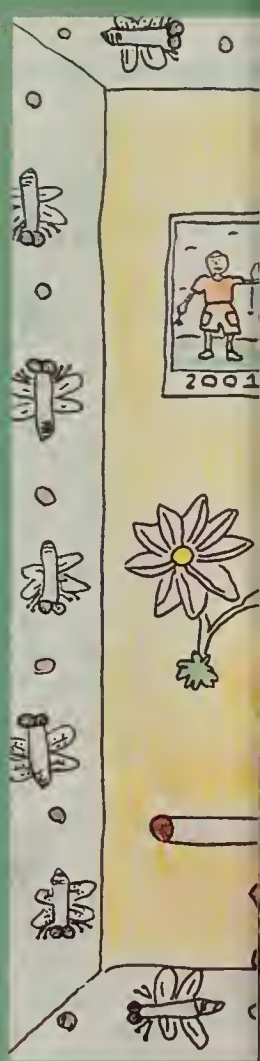
The theme for this year's contest, sponsored by Montana Fish, Wildlife & Parks and open to fifth-graders statewide, was: "We celebrate the past while looking to the future; what will Montana state parks be like 100 years from now?"

First place went to Paul Capp, a student at Lewis and Clark School in Great Falls. Paul feels the fishing at Giant Springs State Park, and all over Montana, will get better in the next 100 years. His poster shows 50-year increments of improved fish quantity and size, giving hope to the next generation of anglers.

Paul received a $150 savings bond and a T-shirt with his poster printed on the front. His school also received a state park video and book for its library.

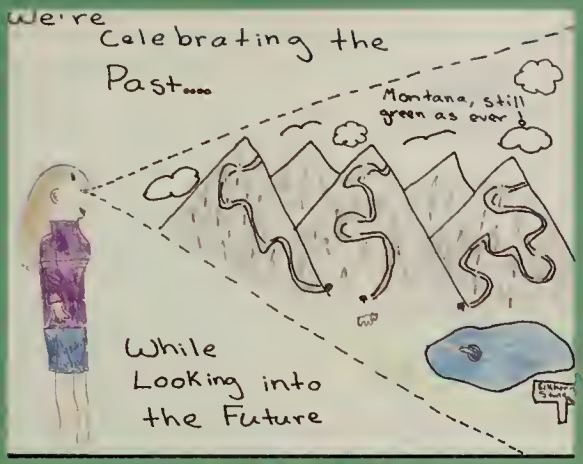
The second place winners each took home a $100 savings bond and T-shirt. The third place winners received $50 savings bonds and T-shirts.

1st place
Paul Capp
Lewis and Clark School, Great Falls



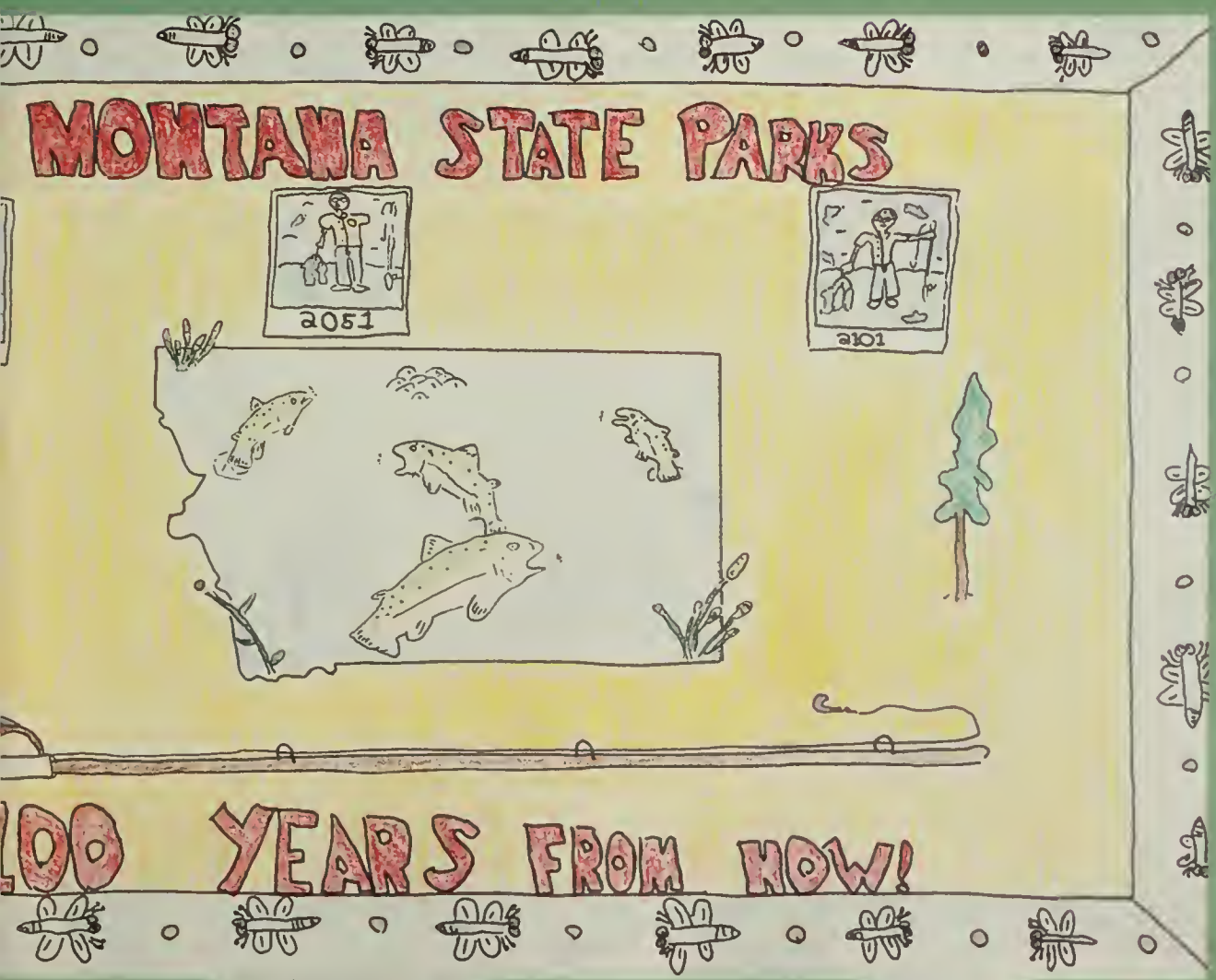
2nd place (tie)
Kyle Kleschen
Lewis and Clark Elementary, Missoula
Kyle's detailed poster depicts prairie dogs at Greycliff Prairie Dog Town State Park.

2nd place (tie)
Karin Lanz
Lewis and Clark School, Great Falls
Karin's clever poster presents Sluice Boxes State Parks with clean air, clean water, and abundant fish and wildlife.



3rd place (tie)
Anne Flowers
Choteau Elementary, Choteau
Anne's imaginative poster predicts a bright future for Elkhorn State Park.

3rd place (tie)
Kayla Roth
Choteau Elementary, Choteau
Kayla's colorful poster shows wildlife at Flathead Lake State Park.



From the Field

River Etiquette in Dry Times

by Stan Bradshaw

If there is one rule as immutable as death and taxes, it's that a drought is wickedly democratic—ranchers and farmers, gardeners, outfitters and guides, anglers and other recreational floaters—everybody takes a hit. When you put two drought years back to back, the damage is all the more severe. As a drought progresses, rivers decline, forests burn, fish die, and tempers fray.

Human nature being what it is—anglers being anglers, and floaters being floaters—we'll likely be on the rivers while we can. But even before they get hot and go dry, they'll likely be low. And low water can accelerate conflict among river users and exacerbate damage to the river. So here are a few rules that, if followed, should reduce the decibel level and soften our impact on a resource we all treasure.

1) **Remember, you're not the only person on the river, and it's not your private playpen. Don't crowd other boats or anglers.** This should be a cardinal rule, and violation of it should result in swift and brutal punishment—a lifetime sentence to porta-potty duty or 24 hours straight of irritating music to be chosen by the victim of your crowding—something along those lines, anyway.

2) **If you're in a boat and you see an angler wading, give her some space.** This requires looking ahead to anticipate the angler. If there isn't space to give, try to go behind her so you don't screw up the fishing. And if you can't pass without going over the water she's fishing (a pretty common problem on rivers like the Smith), apologize and try to get through as quickly as you can. A well-placed apology can go a long way toward soothing hard feelings.

3) **Don't hog the launch area.** There's nothing more irritating than having to sit and cool your heels while the people ahead of you unpack their gear, inflate their boats, repack their food, discuss world events, and generally hold things up right in the middle of the boat ramp. So don't do it to others. Unload your stuff away from the launch area so others can get on the river while you're getting ready.

4) **If you get to the put-in and it's full-to-overflowing, go somewhere else.** Some put-ins, especially on places like the Blackfoot River, have specific vehicle limits. On the Blackfoot, those put-ins have often been donated by adjoining landowners. Respect the vehicle limits.

5) **If you bring your dog along, keep it under control. If you can't control it, don't bring it.** It's not amusing to have a strange dog come lumbering into your lunch spot, snuffling in your food packs and pooping in the picnic area. So don't inflict your dog on others.

6) **Try to keep the decibel level down to something less than a dull roar.** Most floaters aren't there just for the unbridled pleasure of listening to your favorite boom-box tunes or to hear your group discussion from hundreds of yards away. And if your tunes are so precious to you that you can't go on the river without them, stay home.

7) **Respect the rights of adjoining landowners.** In Montana, while we enjoy what amounts to a public easement to float through private lands, that right usually ends above the ordinary high-water mark. Know the limits of your rights and abide by them. This should be a no-brainer.

Streams could get dangerously warm for trout this summer; to reduce stress on fish you intend to release, don't remove them from the water.

8) **Avoid behavior that damages the natural resources on the river.** Don't litter. Don't drag your anchor (if you have one), along the bottom of the river. And don't take your axe to the trees or decide to cut a custom log table, or otherwise trash the streamside vegetation. Leave any rocks or historic artifacts where you find them.

Respect any wildlife you encounter. Don't harass animals and don't feed them. If you see animals nesting or mating, don't go up and butt in on them. Leave them alone.

9) **If you're playing at a rapid or at some other spot on the river, pay attention to boats coming through the rapid and yield to the through**

traffic. This goes back to Rule 1.

10) **Know the regulations and obey them.** If a river has special regulations, obey them. They will usually address some problem specific to the river. Don't become part of the problem by flouting the regulations.

11) **If you're camping, try to use established campsites, and, in any event, practice no-trace camping.** Don't alter a spot to create a campsite. Focus your activities in areas of minimal vegetation. Even in a wet year, don't build a fire unless you really need one. This year, don't build one *period*. And if the urge to gaze deeply into the bowels of a fire seems overwhelming, just keep reminding yourself about last year's wildfires.

12) **Dispose of wastes properly.** Use public toilets where they exist. When you can't use a public toilet (and sometimes you just can't wait) pack out any solid wastes or dig a cat hole 6 to 8 inches deep at least 200 feet from the water. If you're floating through private lands, the 200-foot option may not be available, and you may just have to hold it or pack it out.) If you do a cat hole, cover and disguise it when you're done. In areas of heavy use, the cat hole option is simply not good enough. That's where a good porta-potty comes in. Pack out anything you have packed in.

If you wash dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.

Finally, at some point this summer the water on many, if not most, of our trout streams is going to get dangerously warm for the fish. And it may get there before FWP initiates a fishing closure. At around 70 degrees F., trout are barely hanging on. You don't have to wait for a state-ordained closure—just quit fishing those heat-stressed waters. Exercise a little self-restraint. This goes back to Rule 8, respecting wildlife.

In the meantime, if you catch a fish and intend to release it, land it as quickly as you can and release it with a minimum of handling. This would be a good summer to just skip the trophy photos, unless you can take them while keeping the fish in the water. A fish that bounces around the bottom of your boat while you scramble to strike the trophy pose is likely a dead fish.

That's about it. If we all exercise a little respect and courtesy while we're on the water, it will make it easier for us to get through what promises to be a long, hot summer.

Editor's note.—This article is adapted from Stan Bradshaw's book, River Safety: A Floater's Guide, *available for $14.95 from Greycliff Publishing Co., P.O. Box 1273, Helena, MT 59624-1273; (406) 443-7332. Bradshaw is a water rights attorney for Trout Unlimited, a fishing guide, and a certified canoe instructor.*

PHOTOS BY DAVE BOOKS

To avoid holding up traffic at popular launch areas, get your gear ready before backing down the boat ramp. Then launch quickly and move out of the way.

Readers Respond

Townsend's Solitaire Article Solves Mystery

Thank you for the article by Jerry Kustich on the Townsend's solitaire in your March/April 2001 issue.

It answered a mystery that I've had since 1996 when my family and I were vacationing in Montana.

As my two sons and I were hiking up a drainage to a snowfield on the north side of West Rosebud Creek near Emerald Lake, a robin-sized bird flew out of the grass and almost hit us. All we saw was its gray back as it flew away. We investigated where it came from and found a crude ground nest of sticks and grass, hidden under a sod overhang.

The bird looked like a robin, but robins don't build crude nests on the ground. Thanks to this article, I now know that the bird was a Townsend's solitaire.

Thanks for printing a magazine with such diverse articles. A Montanan at Heart, *Gerald Eswein, Wisconsin Rapids, Wisconsin*

"Whoo Whoo" Birds

Thank you for a wonderful magazine with interesting articles and really spectacular pictures in it!

We especially enjoyed the article, and the pictures, about nighthawks (May/June 2001). Sounds really are difficult to describe—when our daughter was 3, she called them "whoo whoo" birds, because that's how they sounded to her. There's one outside right now, about 4:00 in the afternoon, flying around in bright sun. And last night, I heard one through my open window at midnight. The latter time is more usual than the first though. Perhaps nighthawks just fly around and display whenever they like? And, although the "bird bible" (Roger Tory Peterson's *Field Guide to Western Birds*) says they are "casual" or migrants, we have several breeding pairs around here. Please thank Ellen Horowitz for a truly informative and interesting article.—*Jan Roat, Grass Range*

I enjoy reading your wonderful magazine so much that when the postman delivers it, I put things aside and read it on the spot.

In answer to the article in May/June by Ellen Horowitz about "Montana's Flying Toads" I would like to tell you my story. When I was growing up in Spokane, Washington, during the 1920s and 30s, the nighthawks were plentiful. That was before TV and air-conditioners, therefore people were out on porches during the long summer evenings to visit and be cool and of course, to glance up at the flight of the nighthawks. The sky was full of them!

As a youngster I would watch them wheeling and flying with their distinctive long, pointed wings with a crook at the joints and I would hear their loud, nasal call come drifting down to my ears. It seemed they wouldn't arrive until summer had arrived and then suddenly they would be gone just as fall season was beginning.

Then I moved away to the Yakima Valley and was gone for 30 years. After the death of my husband I decided to come back "home." The next summer I was terribly disappointed when I couldn't find any nighthawks sailing in the evening sky. What had happened to these graceful little birds?

It seemed as if part of summer evenings had been depleted and it made me sad. Therefore when I spied the article in your magazine I read every word with great interest. It is beautifully written and I enjoyed the pictures and I want to thank you for running that article. Ahhh nostalgia!—*Rosemary Jones, Spokane, Washington*

Great Landscapes, Abundant Wildlife

Montana must be a great place to live—more land and wildlife than people!

I appreciate your magazine so much. It gives a good idea of what it's like there.

The landscapes and abundant and diverse wildlife are incredible, and it's fun to get to view them in your magazine—especially the Special Photo Issue—the best yet! Thank you, *Martha Walz, Fayetteville, Arkansas*

I am continually amazed how you folks come up with a great issue—every issue. The stories are wonderful and the photos fantastic. I am not really an outdoorsy person even though I was born and raised in Montana. Each issue makes me wish that I had been to all these wonderful places while I was there. Montana is such a terrific place and your magazine seems to invite its readers to visit. Do keep up the great work—the only problem I see is that your magazine doesn't come out *every* month.—*Karen Matsko, Spokane, Washington*

We welcome your comments as well as letters to the editor. Please write us at: Readers Respond, Montana Outdoors, 930 West Custer Avenue, P.O. Box 200701, Helena, MT 59620-0701; fax 406-443-4619; e-mail montanaoutdoors@state.mt.us.

Contributors

From top to bottom: Curtis, Engelhardt, Erickson, Horowitz, Waterman, Cantwell, Javorsky.

SAM CURTIS "The skin is probably the most versatile organ we—and most other animals—have," says Curtis, who points out that most mammals, birds, amphibians, reptiles, and insects have special forms of outerwear—fur, feathers, scales, shells, and exoskeletons, to name a few (see page 2). Curtis is a Bozeman-based free-lancer whose article, "Animal Attire," is part of a series on wildlife behavior and characteristics.

DOUG ENGELHARDT He entered the Montana bighorn sheep license drawing for the first time in 1969; he didn't draw a permit that year, nor did he draw one for the next 29. Then in 1999 his wife came home from the post office with good news—the long-awaited permit from FWP. After 14 days of hunting over a three-month period in all kinds of weather, he saw his boyhood dream come true (see page 8). An avid outdoorsman, Engelhardt is a propane salesman from Ulm.

GLENN L. ERICKSON Lewis and Clark and other early explorers noted an abundance of bighorn sheep in their journals, but by the late 1800s bighorn populations in Montana had declined dramatically. "Montana's bighorn hunting season was closed in 1915," says Erickson, "and remained closed until 1953." A bureau chief in FWP's Wildlife Division, Erickson describes the agency's successful efforts at restoring bighorn sheep (see page 13).

ELLEN HOROWITZ Near her home in northwestern Montana, the sapsuckers show up in late April. Soon their distinctive drumming begins as they drill holes in the bark of trees to get at the sugary sap. The "sapwells" they create benefit insects, other birds, squirrels, and even bats (see page 16). Horowitz, who lives in Columbia Falls, writes widely on natural history subjects.

CHARLES F. WATERMAN "Beavers are a blessing or a curse but their ponds are a way of fishing from coast to coast," says Waterman, who admits to a long-time fascination with the toothy rodents and the fishing opportunities they create (see page 19). "Sometimes the Western ponds contain little cutthroat instead of the brookies...and sometimes they have *big* trout of almost any kind." Waterman, who for many years spent summer and fall in Montana, is author of *Ridge Runners and Swamp Rats*, the book in which this story first appeared.

NEIL CANTWELL His job took him to Butte, Montana, in 1951, and his life has never been the same—partly because he stopped in Livingston one lovely autumn day and walked into Dan Bailey's Fly Shop. Before he left he had his first flyfishing outfit and memories of renowned angler Dan Bailey that would last a lifetime (see page 23). An outdoor writer from Grand Junction, Colorado, Cantwell spends as much time as possible flyfishing Montana's rivers and streams.

LARRY JAVORSKY When his two oldest sons decided to attend a fly-tying group called the "Bitterroot Buggers," he went along to watch. What he saw was more than a bunch of kids learning to tie flies—he saw the future of trout conservation. Supervised by volunteers from the Corvallis-Hamilton area, the meetings involve fly-tying and fly-casting instruction, as well as aquatic education (see page 26). Javorsky is a Hamilton-based photographer whose photos appear often in *Montana Outdoors*.

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